frontiers | Research Topics

Migration and health: a human rights perspective - conference insights and beyond

Edited by
Maria-Isabel Roldos, Allison Squires and Justine McGovern

Coordinated by
Mira Goral, Noemi Rodriguez and June Townes

Published in
Frontiers in Public Health
Frontiers in Sociology

ISSN 1664-8714
ISBN 978-2-8325-7217-7
DOI 10.3389/978-2-8325-7217-7

Generative AI statement
Any alternative text (Alt text) provided alongside figures in the articles in this ebook has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

About Frontiers

Frontiers is more than just an open access publisher of scholarly articles: it is a pioneering approach to the world of academia, radically improving the way scholarly research is managed. The grand vision of Frontiers is a world where all people have an equal opportunity to seek, share and generate knowledge. Frontiers provides immediate and permanent online open access to all its publications, but this alone is not enough to realize our grand goals.

Frontiers journal series

The Frontiers journal series is a multi-tier and interdisciplinary set of open-access, online journals, promising a paradigm shift from the current review, selection and dissemination processes in academic publishing. All Frontiers journals are driven by researchers for researchers; therefore, they constitute a service to the scholarly community. At the same time, the *Frontiers journal series* operates on a revolutionary invention, the tiered publishing system, initially addressing specific communities of scholars, and gradually climbing up to broader public understanding, thus serving the interests of the lay society, too.

Dedication to quality

Each Frontiers article is a landmark of the highest quality, thanks to genuinely collaborative interactions between authors and review editors, who include some of the world's best academicians. Research must be certified by peers before entering a stream of knowledge that may eventually reach the public - and shape society; therefore, Frontiers only applies the most rigorous and unbiased reviews. Frontiers revolutionizes research publishing by freely delivering the most outstanding research, evaluated with no bias from both the academic and social point of view. By applying the most advanced information technologies, Frontiers is catapulting scholarly publishing into a new generation.

What are Frontiers Research Topics?

Frontiers Research Topics are very popular trademarks of the *Frontiers journals series*: they are collections of at least ten articles, all centered on a particular subject. With their unique mix of varied contributions from Original Research to Review Articles, Frontiers Research Topics unify the most influential researchers, the latest key findings and historical advances in a hot research area.

Find out more on how to host your own Frontiers Research Topic or contribute to one as an author by contacting the Frontiers editorial office: frontiersin.org/about/contact

Migration and health: a human rights perspective - conference insights and beyond

Topic editors

Maria-Isabel Roldos — The City University of New York, United States
Allison Squires — New York University, United States
Justine McGovern — City University of New York, United States

Topic coordinators

Mira Goral — The City University of New York, United States
Noemi Rodriguez — NYC College of Technology (City Tech)/CUNY, United States
June Townes — Lehman College, United States

Citation

Roldos, M.-I., Squires, A., McGovern, J., Goral, M., Rodriguez, N., Townes, J., eds. (2026). *Migration and health: a human rights perspective - conference insights and beyond*. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-8325-7217-7

Table of contents

frontiers | Frontiers in Public Health

TYPE Editorial
PUBLISHED 14 November 2025
DOI 10.3389/fpubh.2025.1733468

OPEN ACCESS

EDITED AND REVIEWED BY
Cyrille Delpierre,
INSERM Public Health, France

*CORRESPONDENCE
María Isabel Roldós
✉ mariaisabel.roldos@lehman.cuny.edu

†These authors have contributed equally to this work and share first authorship

RECEIVED 27 October 2025
ACCEPTED 31 October 2025
PUBLISHED 14 November 2025
CORRECTED 08 December 2025

CITATION
Rodríguez N, Goral M, McGovern J, Squires A and Roldós MI (2025) Editorial: Migration and health: a human rights perspective - conference insights and beyond. *Front. Public Health* 13:1733468. doi: 10.3389/fpubh.2025.1733468

Editorial: Migration and health: a human rights perspective - conference insights and beyond

Noemí Rodríguez[1,2†], Mira Goral[2,3†], Justine McGovern[2,3], Allison Squires[4] and María Isabel Roldós[2,3*]

[1]New York City College of Technology, City University of New York (CUNY), Brooklyn, NY, United States, [2]CUNY Institute of Health Equity, Bronx, NY, United States, [3]Lehman College, City University of New York (CUNY), Bronx, NY, United States, [4]Global Consortium of Nursing and Midwifery Studies, Rory Meyers College of Nursing, New York University, New York, NY, United States

KEYWORDS

migration, migrant, health, disparity, human rights, mobility

Editorial on the Research Topic
Migration and health: a human rights perspective - conference insights and beyond

Human mobility is a world-wide phenomenon among global majority and global minority countries (9). The number of international migrants has been growing; it was about 300 million in 2024 (1, 8). People move for a variety of reasons, such as seeking better jobs and access to better health care; running from famine, war, or natural disasters; and fleeing persecution (2). Regardless of the rationale, people who move are likely to experience health disparities–characterized by limited access to care; cultural, language, and social barriers; and adverse physical and mental health outcomes (3).

To raise awareness and ignite collaborations to strategically mitigate health disparities prompted by transitions from home countries to new environments, the City University of New York Institute for Health Equity (CIHE) led a 2023 Academic Summit on "*Migration and Health: A Human Rights Perspective*." Invigorated by the summit's timely and important dialogues, we sought to widen the discussion and scholarly contributions–ensuing this Research Topic.

With a stimulating compilation of 11 articles, the Research Topic includes quantitative and qualitative studies, reviews of current knowledge with future outlooks, and commentaries embedded in existential research to challenge the status quo and act toward health equity among populations experiencing mobility. Combined, the scholarship conveys the cycle of migration through the lifespan (from maternal and infant care to older care) and addresses a variety of morbidities (physical and mental) as well as potential actions and solutions (patient-centered approaches to care, robust education and social support programs).

Examining health disparity across the lifespan, six articles provide insight from maternal care (impacting fetal care) to older care. Focused on maternal care, Smith et al.'s interviews with South Asian refugees living in the US highlight the flaws of the US healthcare system as they are amplified for refugees, whose unfamiliarity with the health system of the new country limits care. Recommendations include investments in nursing care, multilingual doula care, language services, and robust childbirth education. This is most relevant given high maternal and infant mortality rates in the US (4). Lessons from the US can be presented as case studies for other peer countries.

Focusing on child health, Jeong approaches healthcare access and migration from the perspective of structural barriers induced by strict government regulations. Through a content analysis of documents spanning 17 years, Jeong identifies China's denial of legal identity among children of North Korean defectors as a key limiting factor to access pediatric care. To improve the situation, Jeong recommends advocating for policies that dissociate the legality of a child from health services. Maintaining a focus on young migrants and policy, Vega examines undocumented and immigrant students experiences with distress and explores solutions that can help mitigate negative consequences of immigration policies. The author introduces the Immigration Battle Fatigue model and discusses pathways for supporting mental health of student migrants. Similarly focusing on students in higher education institutions, Reynoso et al. conducted a peer-to-peer interview study with students from diverse backgrounds to examine how STEM studies are perceived. The authors identify key themes, including the importance of time management support, diverse mentors, and breaking down stereotypes. As in other papers in the Research Topic, the critical role of authentic support emerged.

Moving toward wellbeing at the later end of the lifespan, Zhou et al. interviewed older individuals from diverse linguistic and cultural backgrounds living in Sweden. Their findings (1) point to a desire to understand and be understood, emphasizing the critical role of communication and education and (2) highlight the resilience that the participants demonstrated through identity negotiation and cultural adaptation strategies. The authors conclude that person-centered approaches in care–sensitive to cultural differences–have the potential to support immigrants despite complex psychosocial processes and communication barriers. With a continued focus on the older adult(s), Muñoz-Alicea and Suarez-Gomez qualitatively examine depression among informal caregivers of older Hispanic adults residing in Mexico, Puerto Rico, and Columbia. The investigation reveals aspects that affect mental health among caregivers of older Hispanics and highlights the importance of social support. Focusing on caregivers for older adults is innovative. Moreover, older care among migrants is important given the growing aging population worldwide (5).

Together with the work by Jeong and by Vega mentioned above, two additional articles focus on systems, structures, and the social ecology of societies. Martens et al. examine migrant status and access to vaccination during the COVID19 pandemic using survey data from Ecuador. Amid barriers and gaps in access, solutions emerged, including support from non-governmental organizations, mobile health brigades, and pressure from international organizations. Education and communication also play a role in improving access to care among refugees and migrants.

The critical role of understanding cultural diversity and the importance of moving away from a colonial view of healthcare are emphasized in McGovern and Fusco's review paper. The review focuses on epistemic disobedience in public health research and practice in the context of migration. The authors define and situate terms in historical and current literature while critically exploring the usage of epistemic disobedience in public health and migration scholarship. The review also points to promising future applications of epistemic disobedience and implications in public health and migration research and practice.

Three articles attend to health areas often passed over: mental health and dental care. Mental health care is discussed in Blukacz et al. The authors examine self-reported stress and mood disorders in relation to demographic, socioeconomic, health, and migration-related factors among international migrants in Chile. Data from a structured questionnaire administered to 1,656 international migrants and 1,664 locals revealed worse mental health indicators for the migrants (e.g., higher rates of mood disorders) compared to the locals; these differences did not change with length of residence. Nevertheless, acculturation processes may offer potential for decreasing mental health challenges among immigrants.

Much like mental health, oral health is often overlooked. Martín Hernández et al.'s cross-sectional study with 128 adult migrants residing in a temporary center in Spain analyzes the association between oral health status and social determinants of health. They concluded that this population experienced major oral health challenges and that disparities were evident by a migrant's home country, education, and ability to access care. Further monitoring is needed, especially since oral health is closely related to systemic health (6, 7).

Finally, Izquierdo-Condoy et al. examine the wellbeing of a special group of migrants–those who are forced to return to their original countries. The authors discuss challenges facing returnees, including limited healthcare access, economic instability, and social exclusion; and emphasize how these barriers contribute to widening health disparities. They suggest that systematic, global efforts are needed to mitigate the negative consequences of these marginalized groups.

The strength of this Research Topic lies in its breadth of methodological approaches, variety of populations spanning the human lifespan, countries of the globe, health aspects addressed, and global perspectives. It brings together scholars from 12 countries and one US territory, focusing on distinct migrant groups and a variety of potential action plans for improving health outcomes and minimizing health disparity.

Author contributions

NR: Visualization, Methodology, Supervision, Project administration, Funding acquisition, Software, Resources, Formal analysis, Writing – original draft, Writing – review & editing, Data curation, Validation. MG: Project administration, Data curation, Validation, Supervision, Investigation, Funding acquisition, Writing – review & editing, Resources, Writing – original draft, Formal analysis, Methodology, Visualization, Software. JM: Writing – review & editing, Software, Methodology, Project administration, Data curation, Funding acquisition, Resources, Validation, Writing – original draft, Conceptualization, Visualization, Formal analysis, Supervision. AS: Validation, Formal analysis, Writing – review & editing, Project administration, Methodology, Data curation, Supervision, Visualization, Funding acquisition, Software, Writing – original draft, Conceptualization, Resources. MR: Writing – review & editing, Software, Methodology, Project administration, Data curation, Funding

acquisition, Resources, Validation, Writing – original draft, Conceptualization, Visualization, Formal analysis, Supervision.

Funding

The author(s) declare financial support was received for the research and/or publication of this article. The *2023 Migration and Health: A Human Rights Perspective* academic summit was funded by funds provided by the Office of the President and Provost at Lehman College through the CUNY Institute for Health Equity.

Acknowledgments

Thank you to the CUNY Institute for Health Equity for supporting this project, and we express our greatest appreciation to CIHE's Administrative Coordinator, Mrs. Townes. We sincerely thank all the authors and reviewers for their participation in this Research Topic.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Correction note

A correction has been made to this article. Details can be found at: 10.3389/fpubh.2025.1751697.

Generative AI statement

The author(s) declare that no Gen AI was used in the creation of this manuscript.

Any alternative text (alt text) provided alongside figures in this article has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

Publisher's note

References

1. Paez-Deggeller V. *Top Statistics on Global Migration and Migrants*. Migration Information Source (2025). Available online at: https://www.migrationpolicy.org/sites/default/files/source_images/2025_globalfrs-print.pdf (Accessed August 15, 2025).

2. Recchi E. Mobile Europe: The theory and practice of free movement in the EU. London: Palgrave Macmillan. doi: 10.1057/9781137316028

3. Ekezie W, Cassambai S, Curtis F, Czyznikowska B, O'Mahoney LL, Wills A. global insights on the involvement of ethnic minority populations in health and social care research priority setting: a systematic scoping review. *J. Racial Ethnic Health Dispar*. (2025). doi: 10.1007/s40615-025-02377-x

4. The Century Foundation. *State of Maternal Health 2025* (2025). Available online at: https://tcf.org/content/report/state-of-maternal-health-2025/ (Accessed August 15, 2025).

5. World Health Organization. *Ageing Global Population* (2025). Available online at: https://www.who.int/news-room/questions-and-answers/item/population-ageing (Accessed September 16, 2025).

6. American Dental Association. *Oral-Systemic Health* (2025). Available online at: https://www.ada.org/resources/ada-library/oral-health-topics/oral-systemic-health (Accessed September 18, 2025).

7. Barnett ML. The oral-systemic disease connection. An update for the practicing dentist. *J Am Dent Assoc.* (2006) 137:S5–6. doi: 10.14219/jada.archive.2006.0401

8. Barbosa H, Barthelemy M, Ghoshal G, James CR, Lenormand M, Louail T, et al. Human mobility: models and applications. *Phys Rep*.(2018) 734:1–74. doi: 10.1016/j.physrep.2018.01.001

9. McAuliffe M, Oucho LA. *Report overview: migration continues to be part of the solution in a rapidly changing world, but key challenges remain*. World migration report 2024, no. 1 (2024) e00033. Available online at: https://worldmigrationreport.iom.int/msite/wmr-2024-interactive/

frontiers | Frontiers in Public Health

TYPE Perspective
PUBLISHED 30 April 2025
DOI 10.3389/fpubh.2025.1577018

OPEN ACCESS

EDITED BY
Maria-Isabel Roldos,
The City University of New York, United States

REVIEWED BY
Cristina Belén Sampedro Palacios,
University of Jaén, Spain
Yesnely Anacari Flores,
Emory University, United States
Daniel Granada,
Federal University of Santa Catarina, Brazil
Beatriz Costas-Rodriguez,
Carlos Albizu University, Puerto Rico

*CORRESPONDENCE
Esteban Ortiz-Prado
✉ e.ortizprado@gmail.com

RECEIVED 14 February 2025
ACCEPTED 14 April 2025
PUBLISHED 30 April 2025

CITATION
Izquierdo-Condoy JS, Salazar-Aguilar JP, Vasconez-Gonzalez J and Ortiz-Prado E (2025) The public health consequences of mandatory return migration: a call for action. *Front. Public Health* 13:1577018. doi: 10.3389/fpubh.2025.1577018

The public health consequences of mandatory return migration: a call for action

Juan S. Izquierdo-Condoy[1], José Pablo Salazar-Aguilar[2], Jorge Vasconez-Gonzalez[1] and Esteban Ortiz-Prado[1]*

[1]One Health Research Group, Universidad de las Américas, Quito, Ecuador, [2]Escuela de Comunicación Colectiva, Universidad Latina de Costa Rica, San Pedro, Costa Rica

Migration has long shaped human societies, often generating complex social and political dynamics. In the United States, migration from Latin America represents a significant proportion of inflows, but increasingly restrictive policies have intensified hardships for migrants. Returning migrants frequently encounter systemic barriers such as limited healthcare access, economic instability, and social exclusion, all of which contribute to widening health disparities. The "healthy migrant effect" often declines as migrants face limited medical resources, reintegration difficulties, and weakened social support networks, which heighten the risk of mental health issues such as depression and PTSD. Moreover, food insecurity, poor living conditions, and exposure to violence further exacerbate physical and mental health vulnerabilities. Forced return migration magnifies these risks, leading to the marginalization of returnees both socially and economically. Addressing these challenges requires coordinated, equity-focused migration policies that integrate public health, legal, and social support systems. Sustainable, rights-based approaches are essential to promoting the long-term wellbeing of migrants and achieving broader public health goals.

KEYWORDS

return migration, public health, health disparities, reintegration, migration policy

1 Introduction

Over the past few decades, global migration flows have intensified, with a marked acceleration in the last 10 years driven by economic instability, armed conflict, and more recently, the HIV/AIDS pandemic. According to the United Nations High Commissioner for Refugees (UNHCR), a migrant is defined as an individual who voluntarily leaves their country of origin, retaining the ability to return home safely at any time (1). Additionally, return migration encompasses a range of movements back to the country of origin, including repatriation, expulsion, deportation, assisted return, and voluntary return initiated by the individual (2). Contemporary migration patterns are especially prominent in flows from Latin America to the United States and from Africa to Europe. In response, destination countries have implemented increasingly restrictive immigration policies. Among these is the recent adoption of mandatory return migration, which obliges migrants to return to their countries of origin regardless of their specific circumstances or humanitarian and health-related needs.

This phenomenon has significant implications for public health, particularly for undocumented immigrants, a group that may include individuals facing a double burden of vulnerability—a condition in which general social and legal marginalization is compounded by the presence of specific health conditions, further increasing their risk

(3). These individuals often lack legal status, have limited or no access to health care, and live under the constant threat of Immigration and Customs Enforcement (ICE) raids, all of which intensify their economic insecurity and psychological distress. The intersection of migration and health thus emerges as a critical public health concern. Studies have shown that returned migrants frequently experience poorer health outcomes, largely due to restricted access to medical services, persistent economic hardship, and the stress associated with reintegration into their countries of origin (4, 5).

These implications have become increasingly evident in recent policy decisions. On January 20, 2025, President Trump signed an executive order suspending the U.S. Refugee Admission Program (USRAP) indefinitely (6). This drastic policy shift has sparked intense debate, particularly regarding its public health implications and the potential human rights violations faced by undocumented migrants (7). Despite the profound disruptions caused by mandatory return migration, its health consequences often remain underrecognized by authorities (7).

Reintegration following deportation presents a distinct set of challenges that further undermine migrant wellbeing. Deported migrants are not merely leaving a country, they are being forcibly removed from established lives, where they have built homes, raised children, and integrated into society. Research indicates that return migrants face substantial barriers to healthcare access, further worsened by social exclusion, economic instability, and the psychological trauma of forced displacement. These factors compound their vulnerability, making reintegration into their home countries particularly challenging (8–10).

Furthermore, disparities in income and social support systems contribute to unequal health outcomes between returning migrants and urban populations—a group often used as a benchmark due to their relatively greater access to healthcare services and social infrastructure. These disparities frequently heighten returnees' vulnerability to both physical and mental health conditions (11–13). The lack of reintegration programs—combined with economic instability and limited access to healthcare—places returnees at a marked disadvantage, exacerbating pre-existing inequities and perpetuating cycles of poverty and social exclusion (14). Notable examples of reintegration initiatives include Mexico's 3 × 1 Program for Migrants and Ecuador's Emergency Assistance Plan for nationals returning from the United States (15, 16).

To better understand these dynamics, the findings from the literature were synthesized to identify key trends, gaps in existing research, and to highlight the long-term effects of deportation and repatriation under the current U.S. immigration policies.

2 Methodology

This perspective study evaluates the public health impacts of mandatory return migration, specifically following the implementation of immigration policies under President Trump's administration. A comprehensive literature review was conducted to identify relevant studies assessing the health outcomes of return migrants. The review was carried out using the PubMed, Scopus, and Google Schoolar databases, with the following search terms: ("Return Migrant" OR "Return Migration") AND ("public health impact" OR "health risk" OR "health outcomes"). Out of 150 sources initially screened, 12 peer-reviewed articles were selected for inclusion in this analysis.

The data were analyzed across key areas, including the physical health risks of mandatory return migration, focusing on limited healthcare access and the worsening of pre-existing conditions, such as physical health problems, health issues, psychological and mental health problems, violence and harm based on gender or sexual orientation (17). The role of social support and its impact on the reintegration and wellbeing of return migrants was also explored. Additionally, the review assessed how lifestyle factors—such as diet, physical activity, and socioeconomic status—affect the health outcomes of returnees, with a particular emphasis on migration's influence. Psychological challenges, including stress, anxiety, and depression resulting from forced displacement and reintegration, were examined. Lastly, the review addressed the ethical and policy implications of mandatory return migration, evaluating the effectiveness of related health programs in both sending and receiving countries.

3 Public health impacts of mandatory return migration

Mandatory return migration can have profound public health implications, particularly for vulnerable populations such as migrant workers. The intersection of health outcomes and social support systems plays a crucial role in shaping the wellbeing of these individuals, influencing both short- and long-term reintegration challenges (18).

3.1 Health risks associated with mandatory return migration

The *healthy migrant effect* suggests that migrants initially arrive in their host countries in better health than the local population (19). However, this advantage is often short-lived due to various challenges encountered abroad, including poor working conditions, limited access to healthcare, and social discrimination (17, 20, 21). Upon returning to their home countries, many migrants face additional barriers to reintegration, including persistent health issues, inadequate medical resources, and socioeconomic instability. Furthermore, systemic exclusion and marginalization exacerbate these health risks, as observed in countries such as South Africa, where returning migrants face structural barriers to healthcare. Similar challenges may currently affect migrants reintegrating into regions with restricted healthcare access (8).

3.2 Social support and quality of life

Social support is a critical determinant of health and wellbeing, particularly for individuals experiencing forced reintegration under inhumane conditions, such as transport under forced starvation or the use of handcuffs despite individuals not being criminals.

Strong social networks can mitigate stress, improve mental health, and facilitate smoother reintegration (22–24). However, social support levels vary. While some studies indicate that migrant workers report higher social support than urban workers, these findings are influenced by factors such as age, economic status, and access to reintegration programs. In the absence of adequate social safety nets, returning migrants are more likely to experience isolation, economic hardship, and deteriorating health outcomes (14, 25).

3.3 Lifestyle factors and health outcomes

A healthy lifestyle—characterized by balanced nutrition, regular physical activity, and avoidance of harmful behaviors such as smoking and excessive alcohol consumption—is closely associated with better quality of life. However, returning migrants often face adverse conditions that hinder their ability to maintain a healthy lifestyle, including food insecurity and unstable employment. Workplace- and community-based interventions could promote healthier behaviors, serving as effective public health strategies to mitigate these risks (25). The International Organization for Migration established a series of recommendations, such as involving migrants and local communities in all phases of activities to increase their participation, designing and incorporating activities that create a welcoming environment for people to gather, interact, and forge social bonds (26). Riza et al., in their systematic review, evaluated best practices in interventions, including community-based mental health services, a cardiovascular disease prevention program that is linguistically and culturally sensitive, and a health promotion initiative that integrates positive development principles for minority youth (27).

Undocumented migrants, in particular, face significant barriers to healthcare access due to their immigration status, which often renders them ineligible for public health insurance programs and unable to obtain private health insurance. As a result, they are less likely to have a regular healthcare provider, seek preventive services, or access specialized care, all of which contribute to poorer health outcomes (28). Moreover, the fear of deportation due to restrictive policies further deters migrants from seeking healthcare or following healthcare provider recommendations (29, 30).

Migrants are also vulnerable to violent victimization, with limited recourse for seeking help due to their fear of interacting with law enforcement. Common forms of victimization include verbal and physical assault, mistreatment by immigration and law enforcement officers, and racial or linguistic profiling, especially in workplace, healthcare, and immigration-related contexts (28).

Additionally, migrants may face heightened risks for certain health conditions, including HIV, especially among those with prior traumatic experiences or who belong to sexual minority groups. Contributing factors include discrimination, unstable housing, exposure to high-risk sexual partners, and limited access to healthcare services (28). For undocumented women, fear of deportation may lead to remaining in abusive relationships, further compounding health risks, including the potential for HIV transmission (31).

3.4 Mental health considerations

The mental health challenges faced by returning migrants are significant and frequently overlooked. Many migrants experience traumatic events throughout the migration process, including departure, life in foreign countries, and forced return. Prolonged uncertainty, involuntary repatriation, and socioeconomic instability contribute to a higher prevalence of anxiety, depression, and post-traumatic stress disorder (PTSD) among returnees (25). Over 75% of Latin American migrants to the U.S. report experiencing trauma, which includes pre-migration factors such as war, terrorism, political persecution, and natural disasters; migration-related exposures like robbery, kidnapping, rape, extortion, assault, and dehydration; and post-migration factors, including neighborhood and domestic violence (32).

Reintegration into communities of origin is often challenging due to stigma, disrupted social ties, and limited access to mental health services. Addressing these concerns requires a multidisciplinary approach, incorporating culturally competent mental health support, community engagement, and policy frameworks that prioritize psychological wellbeing (25). A relevant example is the López Obrador administration's response to migration, which emphasizes economic and social investment in countries of origin to combat poverty and violence, while also ensuring humanitarian treatment of migrants in Mexico. This approach includes providing an unprecedented number of humanitarian visas to victims or witnesses of serious crimes, unaccompanied minors, and individuals seeking refugee status (33, 34).

Humanitarian visas can also be granted in specific circumstances, such as when individuals face a risk to their health or life, are vulnerable to deportation, or have particular needs (e.g., pregnancy, old age, disability, indigeneity) that make deportation difficult or impossible. In cases of extreme violence or natural disasters, individuals may also be granted humanitarian visas to ensure their safety and wellbeing (34).

3.5 Ethical and policy considerations

Mandatory return migration policies raise significant ethical concerns. The forced repatriation of individuals without adequate support mechanisms exposes them to social marginalization and heightened vulnerability. These policies often undermine fundamental human rights and disproportionately affect already disadvantaged populations (8, 35). Governments have a duty to protect the wellbeing of all individuals within their jurisdiction, including returnees. Policies that fail to account for the health and social needs of returning migrants not only exacerbate individual suffering but also contribute to broader public health crises (36).

4 Discussion

The health consequences of forced return migration under President Donald Trump's immigration policies extend beyond individual migrant experiences, reflecting broader systemic barriers. The deficiencies and variations in reception systems for return migrants, who are at significant risk of vulnerability and

exclusion, are a global concern (37). Addressing these challenges necessitates a multidisciplinary, evidence-based approach that prioritizes equity in access to comprehensive healthcare services and social reintegration. Such as integrating public health, social work, and legal services to deliver coordinated care tailored to the complex needs of returnees. For example, joint initiatives between health clinics, legal aid organizations, and local governments can ensure migrants receive medical treatment, housing assistance, and legal documentation support (38).

Migration policies inherently influence public health outcomes and should be designed to protect the wellbeing of returning migrants rather than exacerbate their vulnerabilities. In the absence of proactive, health-focused interventions—such as mobile health units, culturally tailored mental health programs, and preventive screening campaigns—forced return migration will perpetuate existing health disparities, imposing additional burdens on both returnees and their communities of origin (39).

Social work is uniquely positioned to address these challenges, given its focus on intervention in situations of social need and promoting the protection of human rights (37). New policies must prioritize the prevention of health issues among migrants, particularly those stemming from migration as a social determinant of health. This includes expanding eligibility for public healthcare services to undocumented returnees or removing legal barriers to access for essential services (40).

A novel approach is needed to address the health needs of specific migrant populations or individual illnesses—for example, creating community-based health networks that focus on returning women exposed to gender-based violence or designing mental health interventions specifically for unaccompanied minors (41). Traditional administrative frameworks may not effectively meet the needs of an increasingly diverse and globalized population.

Limited access to healthcare, economic instability, and social exclusion pose substantial barriers to reintegration, exacerbating both physical and mental health issues. Governments and international organizations must acknowledge the intrinsic link between migration and health, developing coordinated policies that integrate healthcare support with reintegration programs—such as reintegration case management systems that include psychosocial support, employment placement, and continued medical care post-deportation (27).

Implementing migration policies that center on health and human dignity—such as eliminating detention-based deportation procedures or prioritizing health assessments prior to return—is not only an ethical responsibility but also a global public health imperative, especially in the Global South, where fragile health systems are often ill-equipped to support returning migrants (42).

Sustainable solutions must address both immediate healthcare needs and the long-term social determinants of health. Examples include investing in cross-border healthcare access agreements, establishing returnee health monitoring systems, and supporting livelihood programs that promote economic independence post-return (43). International cooperation is essential to achieving objectives such as those outlined in the Global Compact for Safe, Orderly, and Regular Migration and the Sustainable Development Goals, including universal health coverage (42).

5 Conclusions

Mandatory return migration policies pose significant public health risks, particularly for vulnerable populations facing limited access to healthcare, economic hardship, and social exclusion. These conditions heighten the risk of both physical and mental health issues. Reintegration without adequate support often deepens existing inequalities. Addressing these challenges requires coordinated, equity-driven policies that integrate healthcare, social services, and legal assistance. Policymakers must prioritize the health and dignity of returnees, especially in low-resource settings. Sustainable, rights-based strategies aligned with international frameworks are essential to promote long-term wellbeing and mitigate the public health impact of forced return migration.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

JI-C: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. JS-A: Investigation, Methodology, Resources, Software, Validation, Visualization, Writing – review & editing. JV-G: Data curation, Investigation, Resources, Software, Validation, Writing – original draft. EO-P: Conceptualization, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Visualization, Writing – review & editing.

Funding

The author(s) declare that no financial support was received for the research and/or publication of this article.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declare that no Gen AI was used in the creation of this manuscript.

Publisher's note

References

1. Bradby H, Humphris R, Newall D, Phillimore J. Definitions of refugees, asylum seekers and migrants in the literature. In: *Public Health Aspects of Migrant Health: A Review of the Evidence on Health Status for Refugees and Asylum Seekers in the European Region*. Copenhagen: WHO Regional Office for Europe (2015). Available online at: https://www.ncbi.nlm.nih.gov/books/NBK379415/ (accessed March 18, 2025).

2. Weldemariam LF, Ayanlade A, Borderon M, Möslinger K. Dynamics and factors influencing return migration to Sub-Saharan Africa: a systematic review. *Heliyon.* (2023) 9:e18791. doi: 10.1016/j.heliyon.2023.e18791

3. Shahabi S, Etemadi M, Hedayati M, Bagheri Lankarani K, Jakovljevic M. Double burden of vulnerability for refugees: conceptualization and policy solutions for financial protection in Iran using systems thinking approach. *Health Res Policy Syst.* (2023) 21:94. doi: 10.1186/s12961-023-01041-2

4. Boatemaa Setrana M. Post-migration outcomes and the decision to return: processes and consequences. *Afr Human Mobil Rev.* (2017) 3:3 doi: 10.14426/ahmr.v3i3.835

5. Meng M, Wang Z, Yu J. The impact of medical service on the return behavior: A city-level study in China. *Front Public Health.* (2022) 10:1009454. doi: 10.3389/fpubh.2022.1009454

6. Mattey N. *National Immigration Forum*. (2025). Available online at: https://immigrationforum.org/article/legislative-bulletin-friday-january-24-2025/(accessed March 18, 2025).

7. Homeland Security. U.S. homeland security. In: *President Trump is Already Securing Our Border and Deporting Criminal Aliens*. (2025). Available online at: https://www.dhs.gov/news/2025/01/26/president-trump-already-securing-our-border-and-deporting-criminal-aliens (accessed February 14, 2025).

8. Manji K, Perera S, Hanefeld J, Vearey J, Olivier J, Gilson L, et al. An analysis of migration and implications for health in government policy of South Africa. *Int J Equity Health*. 22:82. doi: 10.1186/s12939-023-01862-1

9. Wickramage K, Vearey J, Zwi AB, Robinson C, Knipper M. Migration and health: a global public health research priority. *BMC Public Health*. 18:987. doi: 10.1186/s12889-018-5932-5

10. Ermansons G, Kienzler H, Asif Z, Schofield P. Refugee mental health and the role of place in the Global North countries: a scoping review. *Health Place*. (2023) 79:102964. doi: 10.1016/j.healthplace.2023.102964

11. Fu H, Vanlandingham M. Mental and physical health consequences of repatriation for vietnamese returnees: a natural experiment approach. *J Refug Stud.* (2010) 23:160–82. doi: 10.1093/jrs/feq012

12. Nauman E, VanLandingham M, Anglewicz P, Patthavanit U, Punpuing S. Rural-to-urban migration and changes in health among young adults in Thailand. *Demography*. (2015) 52:233–57. doi: 10.1007/s13524-014-0365-y

13. Ullmann SH, Goldman N, Massey DS. Healthier before they migrate, less healthy when they return? The health of returned migrants in Mexico. *Soc Sci Med.* (2011) 73:421–8. doi: 10.1016/j.socscimed.2011.05.037

14. Yang Y, Zhao S, Lin L, Qian J, Zhang H, Cai F. Social support and quality of life in migrant workers: Focusing on the mediating effect of healthy lifestyle. *Front Public Health*. (2023) 11:1061579. doi: 10.3389/fpubh.2023.1061579

15. Ministerio de Relaciones Exteriores y Movilidad Humana. *Cancillería establece Plan de Asistencia Emergente para ecuatorianos en Estados Unidos y de apoyo a compatriotas retornados – Ministerio de Relaciones Exteriores y Movilidad Humana*. (2025). Available online at: https://www.cancilleria.gob.ec/2025/02/06/cancilleria-establece-plan-de-asistencia-emergente-para-ecuatorianos-en-estados-unidos-y-de-apoyo-a-compatriotas-retornados/ (accessed April 8, 2025).

16. Secretaría de Bienestar. Gobierno de México. In: *Programa 3x1 para Migrantes*. (2017). Available online at: http://www.gob.mx/bienestar/acciones-y-programas/programa-3x1-para-migrantes (accessed April 8, 2025).

17. Burnett A, Ndovi T. *The Health of Forced Migrants*. (2018). Available online at: https://www.bmj.com/content/363/bmj.k4200.long (accessed April 8, 2025).

18. Abubakar I, Aldridge RW, Devakumar D, Orcutt M, Burns R, Barreto ML, et al. The UCL–Lancet Commission on Migration and Health: the health of a world on the move. *Lancet Lond Engl.* (2018) 392:2606–54. doi: 10.1016/S0140-6736(18)32114-7

19. Hamilton TG. The healthy immigrant (migrant) effect: in search of a better native-born comparison group. *Soc Sci Res.* (2015) 54:353–65. doi: 10.1016/j.ssresearch.2015.08.008

20. Davies AA, Borland RM, Blake C, West HE. The dynamics of health and return migration. *PLoS Med.* (2011) 8:e1001046. doi: 10.1371/journal.pmed.1001046

21. Ornek OK, Waibel J, Wullinger P, Weinmann T. Precarious employment and migrant workers' mental health: a systematic review of quantitative and qualitative studies. *Scand J Work Environ Health.* (2022) 48:327–50. doi: 10.5271/sjweh.4019

22. Ozbay F, Johnson DC, Dimoulas E, Morgan CA, Charney D, Southwick S. Social support and resilience to stress. *Psychiatry Edgmont.* (2007) 4:35–40.

23. Ozola-Cirule I, Martinsone B. Identification of stress factors in returning migrants in Latvia. *Front Psychol.* (2025) 15:1515406. doi: 10.3389/fpsyg.2024.1515406

24. Wang W, Li X. Remain or return? The effect of social network and engagement on settlement intentions among high skilled migrants in Northeast China. *PLOS ONE.* (2025) 20:e0320013. doi: 10.1371/journal.pone.0320013

25. Matlin SA, Depoux A, Schütte S, Flahault A, Saso L. Migrants' and refugees' health: towards an agenda of solutions. *Public Health Rev.* (2018) 39:27. doi: 10.1186/s40985-018-0104-9

26. IOM. *7 recomendaciones para promover la inclusión de las personas migrantes en los países de acogida | ONU Migración Américas*. (2025). Available online at: https://lac.iom.int/en/blogs/7-recommendations-promote-inclusion-migrants-host-communities-through-social-and-cultural-activities (accessed April 8, 2025).

27. Riza E, Kalkman S, Coritsidis A, Koubardas S, Vassiliu S, Lazarou D, et al. Community-based healthcare for migrants and refugees: a scoping literature review of best practices. *Healthcare.* (2020) 8:115. doi: 10.3390/healthcare8020115

28. Ornelas IJ, Yamanis TJ, Ruiz RA. The health of undocumented latinx immigrants: what we know and future directions. *Annu Rev Public Health*. (2020) 41:289–308. doi: 10.1146/annurev-publhealth-040119-094211

29. Hacker K, Anies M, Folb BL, Zallman L. Barriers to health care for undocumented immigrants: a literature review. *Risk Manag Healthc Policy*. (2015) 8:175–83. doi: 10.2147/RMHP.S70173

30. Hacker K, Chu J, Arsenault L, Marlin RP. Provider's perspectives on the impact of Immigration and Customs Enforcement (ICE) activity on immigrant health. *J Health Care Poor Underserved.* (2012) 23:651–65. doi: 10.1353/hpu.2012.0052

31. Palazzolo SL, Yamanis TJ, De Jesus M, Maguire-Marshall M, Barker SL. Documentation status as a contextual determinant of HIV risk among young transgender latinas. *LGBT Health.* (2016) 3:132–8. doi: 10.1089/lgbt.2015.0133

32. Cerdeña JP, Rivera LM, Spak JM. Intergenerational trauma in Latinxs: a scoping review. *Soc Sci Med.* (2021) 270:113662. doi: 10.1016/j.socscimed.2020.113662

33. Jara Solenzar DE, Morales Brito J, Jara Solenzar DE, Morales Brito J. Política y discurso en el tratamiento al tema migratorio de la 4T. *Rev IUS.* (2021) 15:182–207. doi: 10.35487/rius.v15i47.2021.763

34. Lopez Obrador M. *Andrés Manuel López Obrador's Migratory Policy in Mexico*. (2020). Available online at: https://www.chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/strausscenter.org/wp-content/uploads/PRP-216_Lo%CC%81pez-Obrador%E2%80%99s-Migratory-Policy-in-Mexico.pdf (accessed March 18, 2025).

35. Pillai A, Pillai D, Published SA. *State Health Coverage for Immigrants and Implications for Health Coverage and Care*. (2024). Available online at: https://www.kff.org/racial-equity-and-health-policy/issue-brief/state-health-coverage-for-immigrants-and-implications-for-health-coverage-and-care/ (accessed January 29, 2025).

36. International Organization for Migration (IOM) The UN Migration Agency. International Organization for Migration. In: *IOMs Policy on the Full Spectrum of Return, Readmission and Reintegration*. (2020). Available online at: https://www.iom.int/sites/g/files/tmzbdl486/files/documents/ioms-policy-full-spectrum-of-return-readmission-and-reintegration.pdf (accessed Februaury 14, 2025).

37. Martín-Cano M. del C, Sampedro-Palacios CB, Ricoy-Cano AJ, De La Fuente-Robles YM. Superdiversity and disability: social changes for the cohesion of migrations in Europe. *Int J Environ Res Public Health*. (2020) 17:6460. doi: 10.3390/ijerph17186460

38. Alderwick H, Hutchings A, Briggs A, Mays N. The impacts of collaboration between local health care and non-health care organizations and factors shaping how they work: a systematic review of reviews. *BMC Public Health*. (2021) 21:753. doi: 10.1186/s12889-021-10630-1

39. Theodosopoulos L, Fradelos EC, Panagiotou A, Dreliozi A, Tzavella F. Delivering culturally competent care to migrants by healthcare personnel: a crucial aspect of delivering culturally sensitive care. *Soc Sci*. (2024) 13:530. doi: 10.3390/socsci13100530

40. Palacios CBS, Robles YM, de la Galán JH, Gutiérrez VF. Health accessibility: quality of life and physical, psychological and social health in the migrant population. *J Access Des All*. (2024) 14:52–68.

41. Gushulak B, Weekers J, MacPherson D. Migrants and emerging public health issues in a globalized world: threats, risks and challenges, an evidence-based framework. *Emerg Health Threats J*. (2010) 2:e10. doi: 10.3402/ehtj.v2i0.7091

42. International Organization for Migration. International organization for migration. In: *Policy Engagement and Partnerships in Migration Health*. (2025). Available online at: https://www.iom.int/policy-engagement-and-partnerships-migration-health (accessed March 18, 2025).

43. Kreuter MW, Thompson T, McQueen A, Garg R. Addressing social needs in health care settings: evidence, challenges, and opportunities for public health. *Annu Rev Public Health*. (2021) 42:329–44. doi: 10.1146/annurev-publhealth-090419-102204

frontiers | Frontiers in Public Health

TYPE Original Research
PUBLISHED 01 August 2025
DOI 10.3389/fpubh.2025.1641311

OPEN ACCESS

EDITED BY
Allison Squires,
New York University, United States

REVIEWED BY
Cristina Belén Sampedro Palacios,
University of Jaén, Spain
Daniel Granada,
Federal University of Santa Catarina, Brazil
Beatriz Costas-Rodriguez,
Carlos Albizu University, Puerto Rico

*CORRESPONDENCE
David Ribas-Pérez
✉ dribas@us.es

RECEIVED 04 June 2025
ACCEPTED 21 July 2025
PUBLISHED 01 August 2025

CITATION
Martín Hernández J, Barbero Navarro I, Rodríguez Menacho D, Villalva Hernández P, Barrera Mora JM, Ribas-Pérez D and Castaño Séiquer A (2025) Social determinants of oral health in migrants at the Spanish border. *Front. Public Health* 13:1641311. doi: 10.3389/fpubh.2025.1641311

Social determinants of oral health in migrants at the Spanish border

Juan Martín Hernández[1], Ignacio Barbero Navarro[2], Diego Rodríguez Menacho[2], Paloma Villalva Hernández[1,2], Jose María Barrera Mora[2], David Ribas-Pérez[2]* and Antonio Castaño Séiquer[2]

[1]Servicio Andaluz de Salud, Spain, [2]Department of Stomatology, Universidad de Sevilla, Sevilla, Spain

Background: Health equity, particularly in oral health, remains a challenge for socially excluded populations such as migrants. This study investigates the oral health status and associated social determinants of health among adult immigrants residing at the Temporary Stay Center for Immigrants (CETI) in Melilla, Spain.

Methods: A cross-sectional study was conducted in March 2024 involving 128 adult CETI residents. Data collection included standardized oral examinations following WHO guidelines and structured questionnaires assessing sociodemographic variables, health habits, and dental care history. Statistical analyses were performed using SPSS 29.0, with significance set at $p < 0.05$.

Results: The sample was predominantly Latin American (80.5%) and male (67.2%), with a mean age of 34.85 years. While most participants reported good oral hygiene habits, 67.2% were partially edentulous, and the mean Decayed, Missing, Filled, Teeth (DMFT) index was 9.73—higher than national averages. Only 9.4% used dental prostheses. Significant differences were observed between Latin American and African subgroups regarding age distribution, oral hygiene habits, and access to dental care.

Conclusion: Migrant populations at CETI face substantial oral health challenges and disparities linked to origin, education, and access to care. Ongoing epidemiological monitoring is essential to inform tailored, equity-oriented public health interventions that address the dynamic needs of these populations.

KEYWORDS

oral health, health inequities, migrant populations, epidemiology, Melilla, Spain

1 Introduction

One of our main responsibilities as healthcare professionals is to ensure equity in access to healthcare services and treatments aimed at improving patients' overall health. But what exactly is health equity according to the World Health Organization (WHO)? It is defined as:

> "The absence of unfair and avoidable or remediable differences in health among population groups defined socially, economically, demographically or geographically" (1).

As indicated by this definition, key drivers of health equity include social, economic, demographic, and geographic conditions. These factors tend to have a greater impact on disadvantaged groups, highlighting the importance of focusing research efforts on these

populations to effectively address and reduce health inequities in comparison to the broader population.

Health inequalities are significantly shaped by what the WHO calls the social determinants of health (SDH). These are non-medical factors that influence health outcomes—broadly encompassing the conditions in which people are born, grow, live, work, and age. These conditions are shaped by the distribution of money, power, and resources at global, national, and local levels, including political systems, social norms, and economic policies. Health follows a social gradient—those with lower socioeconomic status generally experience worse health outcomes (2). Migrant populations are particularly vulnerable, as they are often exposed to multiple risk factors simultaneously.

It is incorrect to assume that social exclusion only occurs in developing countries. Even in high-income nations, there are socially excluded groups. For instance, Harvard University in the United States has implemented social dentistry programs aimed at low-income families, homeless individuals (3, 4), Spanish-speaking minorities (5, 6), and people with disabilities (7). In Spain, similar initiatives are conducted by the Universities of Valencia and Seville, which have developed specific programs for vulnerable populations (8, 9).

Building on this, it is important to recognize that these same social dynamics influence not only general health but also oral health, which is the specific focus of our work. Scientific evidence reveals a strong correlation between social inequalities and poor oral health, making oral health a valuable indicator of how social disadvantages impact overall well-being (2, 8–11).

Moreover, oral health plays a crucial role in daily functioning, nutrition, speech, and self-esteem. It can also serve as a gateway for detecting systemic diseases and chronic conditions. As such, poor oral health reflects and exacerbates broader health inequalities, underlining the need for targeted interventions in disadvantaged communities.

Achieving equity in oral health requires more than knowledge of social inequalities—it also demands an understanding of individuals' life histories and societal contexts. In the case of migrants, this includes both their country of origin and the host society in which they aim to integrate.

In recent years, numerous preventive social dentistry programs have been developed for marginalized groups, aligned with the WHO's holistic definition of health as a state of complete biological and psychological well-being influenced by sociocultural determinants (2).

Before implementing preventive actions aimed at immigrants and refugees, it is essential to assess their current health status and determine the level of intervention needed to improve it. With an initial epidemiological survey that would provide a deeper understanding of the target population, not only in terms of objective oral health status but also regarding relevant social, personal, and geographic determinants.

Migration is an increasingly important global issue that is significantly influencing the course of the 21st century. Migrants often face vulnerable and unstable circumstances as they seek improved living conditions in countries with unfamiliar cultures, languages, and social structures—many entering via irregular routes. Consequently, migration presents complex challenges related to personal well-being, humanitarian concerns, and social exclusion (12). The magnitude of this issue is underscored by growing global economic disparities and ongoing conflicts. The emotional and psychological toll of extreme migration experiences has even led to the identification of the so-called "Ulysses Syndrome," a stress-related condition affecting many migrants (13).

Epidemiological studies serve as the primary source of information on disease distribution, health determinants, and risk factors within populations, and are vital for the design of effective preventive and therapeutic programs (14).

Each migrant population is unique and must be studied accordingly. Individual backgrounds, personal histories, and identified SDH factors (3) should be taken into account. It is crucial to understand how each specific population arrives in the host country, where they come from, what language they speak, their education level, and other contextual elements that affect their physical and psychological health, integration capacity, and access to healthcare systems. Facilitating access to healthcare services is now recognized as one of the most important factors in improving the health of migrant populations (15, 16).

It is also necessary to evaluate the host country's healthcare system—its strengths, limitations, and ability to integrate marginalized populations—to provide the best possible support to incoming migrants (17–19).

In our case, the immigrant population under study is housed at the Temporary Stay Center for Immigrants (CETI) in the Autonomous City of Melilla, Spain. Unlike other autonomous regions in Spain, Melilla does not conduct regular epidemiological surveys on oral health—an important tool for shaping public health policy. These surveys are key to achieving national oral health goals set by the General Council of Dentists of Spain for (18), as well as global objectives outlined by the WHO (2).

Acknowledging this data gap, we have conducted several epidemiological studies in Melilla—some focused on local health conditions (20) and most targeting the immigrant population at CETI (21–23).

Our ongoing research has revealed that the CETI migrant population is highly dynamic. While it was once composed mainly of sub-Saharan and North African migrants (as one might expect due to Melilla's geographical location), the current population is predominantly Latin American. These groups differ significantly in language, health habits, and needs. Understanding such shifts requires knowledge of local and national political and migration policies, which we will discuss later in this work. Shifts in migratory flows in recent years, along with the relocation of existing migrant populations to other regions of Spain or Europe, may account for the observed changes in predominant nationalities (24).

This variability underscores the necessity of conducting this cross-sectional epidemiological study, which aims to inform and improve public health interventions tailored to the changing needs of CETI's population. Well-targeted oral health education programs have been shown to be particularly effective for refugees (16).

The main objective of this study was to assess the oral health status of socially excluded adult immigrants living at the CETI in Melilla, and to provide data that will help policymakers develop informed, effective public health strategies.

2 Materials and methods

2.1 Study design

This study employed a cross-sectional design. Data were collected through a survey administered to 128 adult residents at the Temporary Stay Center for Immigrants (CETI) during the last week of March

2024. The methodology included a standardized oral cavity examination in accordance with World Health Organization (WHO) guidelines. Additionally, a structured questionnaire focusing on oral health was used. This questionnaire is validated by the WHO and included in the manual *Oral health surveys: Basic methods* (25). Specifically, Annexes 1 and 7 of the manual were utilized as we can see as an Supplementary Table 1.

2.2 Population characteristics

2.2.1 Gender

The study sample included 128 individuals, of whom 86 (67.2%) were men and 42 (32.8%) were women. Despite the numerical difference, the gender differences—even when analyzed by age groups—were not statistically significant. The Chi-square test for gender distribution between the two ethnic groups evaluated also showed no significant difference.

2.2.2 Age

Participants ranged in age from 18 to 66 years, with a mean age of 34.85 years. For statistical purposes, age was grouped into three categories: Young Adult (18–29 years; $n = 47$, 36.7%), Adult (30–50 years; $n = 68$, 53.1%), and Older Adult (51–66 years; $n = 13$, 10.2%).

2.2.3 Origin

Subjects came from diverse countries: Chile ($n = 1$), Colombia ($n = 55$), Cuba ($n = 1$), Honduras ($n = 2$), Mali ($n = 4$), Morocco ($n = 23$), Peru ($n = 7$), an unspecified country ($n = 1$), and Venezuela ($n = 34$). Almost 43% of the sample came from Colombia. To simplify data analysis, they were grouped into two broader categories: Latin Americans ($n = 103$, 80.5%) and Africans ($n = 25$, 19.5%).

2.2.4 Educational level

Participants reported a wide variety of previous occupations and education levels. For analysis, they were grouped as follows: Students ($n = 13$, 10.2%), Elemental Formation ($n = 71$, 55.5%), Vocational Training ($n = 13$, 10.2%), and Higher Education ($n = 13$, 10.2%) (Figure 1).

2.3 Statistical analysis

Quantitative variables were analyzed using the Student's t-test, while qualitative variables were examined using the Chi-square test. A p-value of less than 0.05 was considered statistically significant. All statistical analyses were performed using SPSS version 29.0 (Statistical Package for Social Sciences, Chicago, IL, USA).

2.4 Ethical considerations of the study

This research involving human participants was conducted in accordance with the ethical standards of the institutional and/or national research committee, and with the 1964 Helsinki Declaration and its later amendments. Ethical approval was obtained from the Odontologia Social Foundation ethics committee (n° 04/24) approved in January 2024.

3 Results

3.1 Habits

3.1.1 Sugar-sweetened beverage consumption

Eighty-five respondents (67.2%) consumed sugary drinks, while 42 (33.6%) did not. Among the 85 consumers, 69 drank one glass per day (80.2%), 7 drank two (8.1%), and 10 drank more than two (11.6%).

3.1.2 Sugary food consumption

Eighty-two participants (64.1%) reported consuming sugary foods. However, this may be underreported due to the regular snack provided at the center.

3.1.3 Toothbrushing frequency

Average of 2.88 times/day. Distribution: never (1.6%), once/day (11.7%), twice/day (36.7%), three times/day (50%). Gingival bleeding: 59.4% reported no bleeding; 40.6% reported bleeding during brushing.

3.1.4 Smoking

26.6% of respondents smoked. Among them, 52.9% smoked <5 cigarettes/day, 14.7% smoked 5–10 cigarretes, and 32.4% smoked >10 cigarretes (Figure 2).

3.2 Dental visits

Last dental visit distribution: <6 months (28.1%), 6 months–1 year (31.3%), 1–2 years (11.7%), 2–5 years (14.1%), >5 years (8.5%), never (6.3%) (Table 1).

3.3 General oral condition

Dentition status: 32.9% fully dentate, 67.2% partially edentulous, 0% completely edentulous.

Use of dental prostheses: Only 9.4% wore partial dentures.

Mean values:

- Total teeth: 27.84.
- Healthy teeth: 24.15.
- Teeth with caries: 3.54.
- Filled teeth: 3.18.
- Missing teeth: 3.01.
- Missing due to caries: 1.57.
- Non-erupted: 1.14.
- Sealed: 0.12.

Tooth opacities: 90% had none. Others had diffuse or demarcated opacities, or hypoplasia.

Fluorosis: Absent in 97.7%.

Erosion: 91.4% had none. Minimal cases showed enamel, dentin, or pulp involvement.

Dental trauma: 93% had none. Minor cases of treated or untreated trauma observed.

DMFT Index: Mean value was 9.73 (range: 0–27).

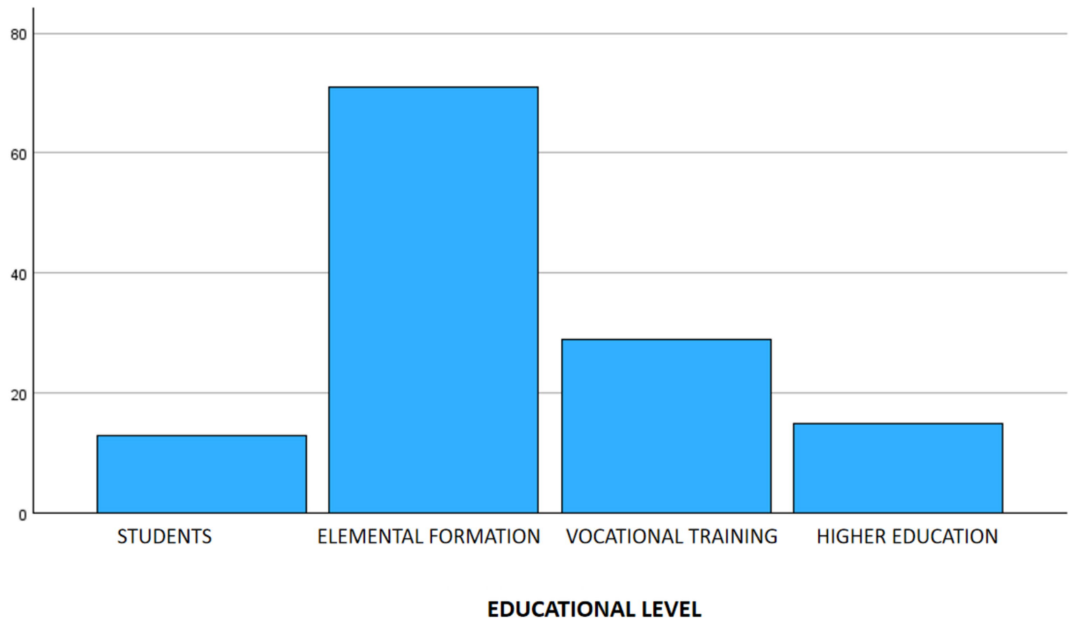


FIGURE 1
Distribution of the sample by educational level.

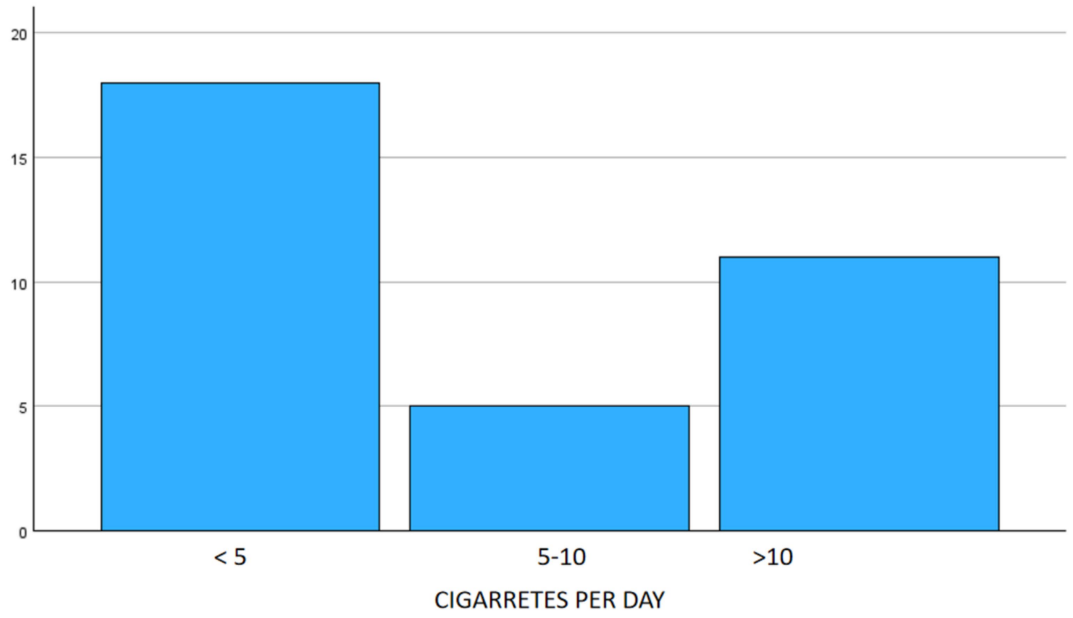


FIGURE 2
Smoking habits in the sample.

3.4 Cross-tabulation of variables

As previously mentioned, in the analytical phase of the study, variables were cross-tabulated according to their qualitative and/or quantitative nature, and the corresponding statistical analyses were performed. A p-value of < 0.05 was considered statistically significant.

In this context, the chi-square test applied to qualitative variables revealed statistically significant associations between:

- Nationality and prosthesis-wearing status ($p = 0.001$).
- Nationality and smoking habits ($p = 0.0042$).
- Nationality and oral hygiene habits ($p = 0.002$).
- Gender and smoking habits ($p = 0.009$).

10.3389/fpubh.2025.1641311

When comparing origin with age groups, statistically significant differences were observed (Chi-square, $p < 0.001$). Latin American immigrants tended to be older, with greater representation in the 30–50 and 51–66 age groups, while African immigrants were mostly within the 18–30 age group and had no representation among older adults (see Figure 3).

4 Discussion

Migration is one of the most defining phenomena of our century. Population movements driven by inequalities between countries—and more recently, by political persecution or armed conflicts—have given rise to groups in extreme need and pockets of poverty and marginalization that receiving countries must manage and address. This study can only be understood within such a current and socially, economically, and culturally significant context as that of migration (12).

TABLE 1 Reason for last dental visit.

Reason	Frequency	Percentage
Cannot remember	12	9.4%
Conservative treatment	29	22.7%
Orthodontic treatment	13	10.2%
Periodontal treatment	4	3.1%
Prosthetic treatment	5	3.9%
Emergency treatment	30	23.4%
Preventive treatment	35	27.3%

If we aim to design effective intervention strategies to improve the overall health—and, specifically, the oral health—of these populations, we must first understand their changing nature. For this reason, ongoing epidemiological studies such as this one are necessary and will continue to be essential. International migration patterns have shifted considerably in recent years, leading to a deeper understanding of the diversity among migrants—previously regarded as a fixed pattern tied to particular ethnic groups (21).

Focusing on our immigrant population at the CETI in Melilla, one of the first striking findings was the origin of the participants. Given the geographical location of the center, it would be expected that most of its users would be of African origin. However, of the 128 individuals surveyed, 103 (80.5%) were Latin American and only 25 (19.5%) were African. To understand this phenomenon, we must consider the history of the CETI, which, since its founding in 1999, has predominantly hosted African migrants.

Traditionally, refugees came from Algeria, Morocco, Mali, Guinea, Cameroon, Nigeria, Chad, Angola, Gabon, the Democratic Republic of the Congo, Niger, Zimbabwe, Ivory Coast, and many other sub-Saharan countries (25). In 2011, the Syrian civil war brought a large influx of Syrian refugees to the center (26). More recently, Latin American migrants have discovered that entering the CETI can help accelerate the bureaucratic process required to obtain residency in Spain. For this reason, many Latin American migrants already residing in the country in irregular situations are now arriving en masse, which explains the large number of Colombian and Venezuelan individuals among those surveyed (27).

The sex and age distributions found in our sample are consistent with the findings of other authors, with a higher proportion of young or middle-aged men and fewer women or

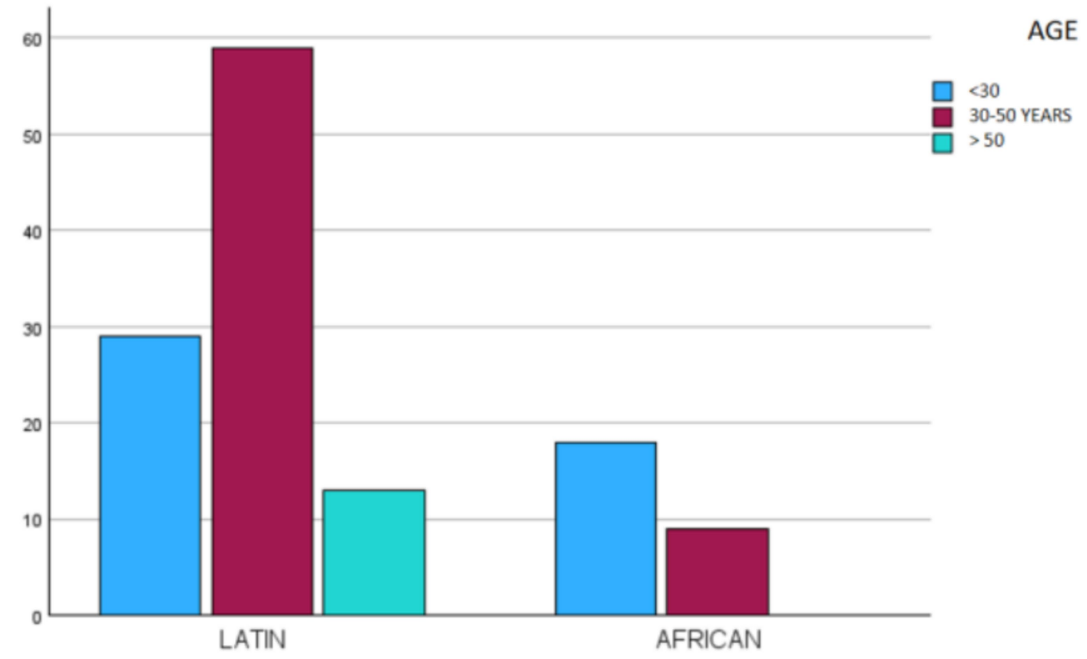


FIGURE 3
Distribution of the sample by age and place of origin.

older adult individuals (28). However, there was a statistically significant difference (Chi-square, $p < 0.05$) in the ages of migrants when comparing Latin Americans with Africans: the 30–50 age group was most frequent among Latin Americans, while the 18–29 age group was most frequent among Africans. Notably, there were no individuals over 50 among the African participants. This may be explained by the fact that many Latin Americans already have relatives established in Spain, which means that many respondents may be arriving to reunite with their families. Since almost all African migrants come from sub-Saharan countries, they must cross the entire Sahara Desert under harsh conditions to reach Melilla. This results in a migration composed of young people, which is why there are no individuals over the age of 50 of African origin in our sample (29).

One of the key issues to address is socio-health inclusion. Migration can lead individuals to lose access to even the most basic health care. In many cases, the harsh living conditions they are forced to endure significantly worsen their health status—including oral health—thereby hindering their integration into the host community. Temporary stay centers, such as the CETI, which provide individualized socio-health care, aim to reduce these disparities. As a result, migrants' integration into receiving communities is improved, and potential rejection on health-related grounds is minimized (21).

With respect to oral health and associated behaviors, the data obtained in this study deviate from those of earlier research (25, 28, 29). Regarding diet, it is clear that sugar consumption is high. As explained in the results section, many participants may not be fully aware of their own consumption, introducing a bias in the survey results. Nonetheless, no significant differences were observed based on origin or gender.

The good oral hygiene reported by the participants is noteworthy, with an average brushing frequency of 2.35 times per day. This differs from previous reports by other authors (28, 30) and may be attributed to the origin of the surveyed populations. When comparing Latin Americans and Africans, statistically significant differences were found (Chi-square, $p < 0.001$) in favor of Latin Americans, who accounted for 80.9% of those brushing twice daily and 89.1% of those brushing three times daily. Notably, none of the Latin American respondents reported not brushing at all.

Another striking finding is that while 40.6% of participants reported gingival bleeding during brushing, only 3.1% reported having visited a dentist for periodontal treatment, and only 22% had sought restorative treatment. This is noteworthy considering the high prevalence of both pathologies according to the literature (15, 30). Gingival bleeding should be a clear indication for seeking dental care, as it may signal the presence of gingivitis or periodontitis—conditions that, if left untreated, can lead to tooth loss. Such a low rate (3.1%) of periodontal treatment suggests a lack of awareness, limited access, or low prioritization of oral health. The fact that only 22% of individuals had received restorative treatment further implies that many cases of dental caries are likely going untreated, thereby exacerbating long-term oral health issues. These findings may reflect a normalization of oral discomfort and a tendency to seek care only in acute or critical situations, while ignoring symptoms that should prompt preventive or early intervention.

The prevalence of smoking was not particularly high, with only 33% of participants reporting the habit, and among these, 53% smoked fewer than five cigarettes per day. However, there was a statistically significant difference between men and women, with a higher proportion of male smokers (Chi-square, $p < 0.01$).

Similarly surprising was the level of dental care received: nearly 60% of the surveyed individuals had visited the dentist within the last year, despite their status as migrants. Only 6.3% reported never having visited a dentist, and these were almost entirely of African origin. Differences in the time since the last dental visit were statistically significant between Latin Americans and Africans (Chi-square, $p < 0.001$), but not between men and women. Perhaps the lack of health awareness in this African population is the cause of this significant difference.

Another point of interest is the discrepancy between the need for prosthetic treatment and actual prosthesis use. Despite good hygiene habits and the relatively high number of teeth retained, 67% of the participants were partially edentulous, while only 9.4% used prosthetic devices.

Other dental health indicators—such as fluorosis, enamel opacities, erosion, or trauma—did not represent significant health problems due to their low prevalence.

The mean DMFT index (Decayed, Missing, and Filled Teeth) was 9.73, with values ranging from 0 to 27. This figure is considerably higher than that reported in the general population of the host country (19, 31). As this index explores the individuals' history of dental caries, it is evident that the number of caries (treated or untreated) among the immigrant population is significantly higher than that of the host country's population.

All of these epidemiological data—and those that may be gathered in future studies of immigrant populations—are essential for understanding these constantly evolving groups. They must be analyzed with the aim of reducing the health inequities, particularly in oral health, that these migrant populations face (10). This knowledge should also be complemented by a comprehensive understanding of the host country's healthcare system and how to facilitate access to it for migrants, thereby promoting better integration and health outcomes (10).

5 Conclusion

This study reveals that the migrant population at the CETI in Melilla faces significant oral health challenges, including high rates of caries, tooth loss, and low use of dental prostheses, with notable differences by geographic origin. Despite generally adequate oral hygiene habits, poor oral health highlights gaps in access to preventive and therapeutic dental services.

Strengths include the use of standardized WHO methods and consideration of social determinants, allowing comprehensive analysis. Limitations involve a small sample size, cross-sectional design, and potential self-report bias. Health programs should focus on equity-based public health interventions, oral health education, improved access to dental care, and tailored treatments. Temporary centers can be key sites for preventive programs to reduce inequalities and support social integration.

Future research should include longitudinal studies to monitor oral health trends and qualitative studies on cultural, economic, and structural barriers. Intersectoral collaboration is essential for effective, sustainable strategies addressing the diverse needs of Melilla's migrant population.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by Odontologia Social Foundation Ethics Committee. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

JM: Methodology, Conceptualization, Writing – original draft. IB: Writing – review & editing, Data curation, Conceptualization. DR: Writing – review & editing, Methodology, Investigation. PV: Methodology, Writing – review & editing, Investigation. JB: Investigation, Writing – review & editing, Software, Formal analysis, Methodology. DR-P: Data curation, Conceptualization, Writing – original draft, Writing – review & editing. AC: Writing – review & editing, Visualization, Resources.

Funding

The author(s) declare that no financial support was received for the research and/or publication of this article.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The authors declare that no Gen AI was used in the creation of this manuscript.

Publisher's note

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpubh.2025.1641311/full#supplementary-material

References

1. World Health Organization. Constitution of the World Health Organization [internet]. (1948). Available online at: http://www.who.int/gb/bd/PDF/bd46/s-bd46_p2.pdf (Accessed 14 October, 2007).

2. World Health Organization. Educación para la salud: manual sobre educación sanitaria en atención primaria de salud. Ginebra: Organización Mundial de la Salud (1989).

3. Swann BJ, and Obadan EM. Programas de Odontología Social de la Universidad de Harvard (EEUU) In: Odontología preventiva y comunitaria: la odontología social: un deber, una necesidad, un reto (2012). 771–84.

4. O'Connell JJ, Oppenheimer SC, Judge CM, Taube RL, Blanchfield BB, Swain SE, et al. The Boston health care for the homeless program: a public health framework. *Am J Public Health*. (2010) 100:1400–8. doi: 10.2105/AJPH.2009.173609

5. Sentell T, Shumway M, Snowden L. Access to mental health treatment by English language proficiency and race/ethnicity. *J Gen Intern Med*. (2007) 22:289–93. doi: 10.1007/s11606-007-0345-7

6. Fiscella K, Sanders MR. Racial and ethnic disparities in the quality of health care. *37*, Annual Review of Public Health. Annual Reviews Inc.; (2016). p. 375–394. doi: 10.1146/annurev-publhealth-032315-021439

7. Nelson LP, Getzin A, Graham D, Zhou J, Wagle EM, McQuiston J, et al. Unmet dental needs and barriers to care for children with significant special health care needs. *Pediatr Dent*. (2011) 33:29–36.

8. Castaño-Seiquer A. Odontología Social: Un Proyecto Iberoamericano Para El Mundo. HuelvaDiputacion de, editor. Huelva: Diputación Provincial de Huelva. Servicio de Publicaciones; (2017).

9. Castaño Seiquer A, Ribas Pérez D. Odontología preventiva. Conceptualización y generalidades In: Odontología preventiva y comunitaria: la odontología social: un deber, una necesidad, un reto, Editor "Fundacion Odontologia Social". Seville. Spain (2012). 31–7.

10. Narvai PC, Castaño Seiquer A, and Doldan Lema J. "Los desafíos de la odontología." Manual de introducción a la odontología. Madrid, Spain: Ripano; (2005). p. 277–280.

11. Northridge ME, Kumar A, Kaur R. Disparities in access to oral health care. *Annu Rev Public Health*. (2020) 41:513–35. doi: 10.1146/annurev-publhealth-040119-094318

12. Dziedzic A, Riad A, Tanasiewicz M, Attia S. The increasing population movements in the 21st century: a call for the E-register of health-related data integrating health Care Systems in Europe. *Int J Environ Res Public Health*. (2022) 19:3720. doi: 10.3390/ijerph192113720

13. Achotegui J. Emigrar hoy en situaciones extremas. El síndrome de Ulises. *Aloma: Revista De Psicologia, Ciències De l'Educació I De l'Esport*. (2012) 30:79–86.

14. Celentano DD, Szklo M. Gordis epidemiology. Amsterdam, The Netherlands: Elsevier Health Sciences (2018).

15. Pabbla A, Duijster D, Grasveld A, Sekundo C, Agyemang C, van der Heijden G. Oral health status, oral health behaviours and oral health care utilisation among migrants residing in Europe: a systematic review. *J Immigr Minor Health*. (2021) 23:373–88. doi: 10.1007/s10903-020-01056-9

16. Muller R, Bilich L, Jones M. Impact of an oral health education program on the oral health literacy of refugees. *J Immigr Minor Health*. (2024) 26:699–710. doi: 10.1007/s10903-024-01594-6

17. Fernández G, Comité M, De La T, Foessa F. Conclusiones principales del VII Informe sobre exclusión y desarrollo social en España 2014. *Almogaren*. (2015) 56:49–70.

18. Bravo Pérez M, Almerich Silla J, Canorea Díaz E, Casals Peidró E, Cortés Martinicorena F, Expósito Delgado A, et al. Encuesta de salud oral en españa 2020. *ROCE*. (2020) 25:12–69.

19. De Sanidad M. Informe Anual del Sistema Nacional de Salud 2023 Informes, Estudios E Investigación, Madrid, Spain (2024).

20. Hernandez-Donadeu M, Ribas-Pérez D, Rodriguez Menacho D, Villalva Hernandez-Franch P, Barbero Navarro I, Castaño-Séiquer A. Epidemiological study of oral health among children and adolescent schoolchildren in Melilla (Spain). *Healthcare (Switzerland)*. (2023) 11:2086. doi: 10.3390/healthcare11142086

21. Martín-Cano MdC, Sampedro-Palacios CB, Ricoy-Cano AJ, De La Fuente-Robles YM. Superdiversity and disability: social changes for the cohesion of migrations in Europe. *Int J Environ Res Public Health*. (2020) 17:6460. doi: 10.3390/ijerph17186460

22. Ribas-Pérez D, Sevillano Garcés D, Rodriguez Menacho D, Hernandez-Franch PV, Barbero Navarro I, Castaño Séiquer A. Cross-sectional study on oral health-related quality of life using OHIP-14 in migrants children in Melilla (Spain). *Children*. (2023) 10:1168. doi: 10.3390/children10071168

23. Kizi G, Raquel Barata A, Ventura I, Flores-Fraile J, Ribas-Perez D, Castaño-Seiquer A. Oral health in migrants children in Melilla, Spain. *Children*. (2023) 10:888. doi: 10.3390/children10050888

24. Ferreira-Alfaya FJ. Inequalities in health literacy between European population and newly arrived male sub-Saharan migrants in Europe. *Health Promot Int*. (2024) 39:129. doi: 10.1093/heapro/daae129

25. Riatto SG, Montero J, Pérez DR, Castaño-Séiquer A, Dib A. Oral health status of Syrian children in the refugee center of Melilla, Spain. *Int J Dent*. (2018) 2018:2637508. doi: 10.1155/2018/2637508

26. World Health Organization. Oral health surveys basic methods. 5th ed (2013). Geneva, Switzwerland: WHO.

27. Luque Revuelto RM, Moreno Muñoz D. Nuevas dinámicas migratorias en la Colombia del posconflicto: entre el desplazamiento forzado, la inmigración venezolana y la COVID-19. *Revista de Geografía Norte Grande*. (2024) 88:1–24. doi: 10.4067/S0718-34022024000200114

28. Lauritano D, Moreo G, Carinci F, Campanella V, Della Vella F, Petruzzi M. Oral health status among migrants from middle-and low-income countries to Europe: a systematic review. *Int J Environ Res Public Health*. (2021) 18:12203. doi: 10.3390/ijerph182212203

29. Salas-Coronas J, Cabezas-Fernández MT, Lozano-Serrano AB, Soriano-Pérez MJ, Vázquez-Villegas J, Cuenca-Gómez JÁ. Newly arrived African migrants to Spain: epidemiology and burden of disease. *Am J Trop Med Hyg*. (2018) 98:319–25. doi: 10.4269/ajtmh.17-0604

30. Rad SAB, Oliveira ME, Maklennan A, Castiglia P, Campus G. Higher prevalence of dental caries and periodontal problems among refugees: a scoping review. *J Glob Health*. (2023) 13:04111. doi: 10.7189/jogh.13.04111

31. Bravo Perez M, Cabrera León A, Carlos Llodra Calvo Juan. Quinto estudio epidemiologico salud oral escolares andaluces 2022. Ed "Junta de Andalucia, Seville, Spain" (2022).

frontiers | Frontiers in Public Health

TYPE Original Research
PUBLISHED 01 August 2025
DOI 10.3389/fpubh.2025.1613249

OPEN ACCESS

EDITED BY
Maria-Isabel Roldos,
The City University of New York, United States

REVIEWED BY
Mohan Vinjamuri,
Lehman College, United States
Ruth Appiah-Kubi,
University of Massachusetts Amherst, United States
Sri Nurhayati Selian,
Universitas Muhammadiyah Aceh, Indonesia

*CORRESPONDENCE
Denise C. Smith
denise.smith@cuanschutz.edu

RECEIVED 16 April 2025
ACCEPTED 10 July 2025
PUBLISHED 01 August 2025

CITATION
Smith DC, Thumm EB, Tien NC(G) and Kissler K (2025) Respectful maternity care experiences of South Asian refugees in the US: a qualitative study.
Front. Public Health 13:1613249.
doi: 10.3389/fpubh.2025.1613249

Respectful maternity care experiences of South Asian refugees in the US: a qualitative study

Denise C. Smith[1]*, E. Brie Thumm[1], Nai Chieh (Geri) Tien[2] and Katherine Kissler[1]

[1]College of Nursing, University of Colorado Anschutz Medical Campus, Aurora, CO, United States, [2]Asian Pacific Cultural Development and Wellness Center, Aurora Mental Health and Recovery, Aurora, CO, United States

Introduction: Immigrants and refugees giving birth in the United States face challenges in receiving high-quality maternity care. The purpose of this study was to understand the experiences of recent refugees from ethnic communities displaced from southern Asia and resettled in the United States.

Materials and methods: The qualitative study used focus group discussions with three refugee communities who have given birth since resettlement in the United States. Using thematic analysis, we applied the concepts of respectful maternity care to identify themes.

Results: Five themes emerged from the analysis: (1) interpersonal caring, (2) flaws in US maternity care are amplified for refugees, (3) multidimensionality effects knowledge, preferences, and expectations, (4) complexity of the US health system combined with unfamiliarity contributes to lack of confidence, and (5) problems with language interpretation.

Discussion: The identified themes can inform specific, actionable policies and programs that improve care for immigrant and refugee communities including investment in nursing care, implementation of multilingual doula care, improvements in language services, and robust childbirth education.

KEYWORDS

maternal health, refugee, language interpretation, United States, maternity care, qualitative research

1 Introduction

Maternal health outcomes in the United States are inexcusably poor and characterized by racial, ethnic, and geographic disparities. Maternal mortality for birthing individuals of color is 2–3 times more likely compared to their white counterparts (1). Racially and ethnically minoritized communities also experience disproportionately high rates of adverse maternal health outcomes (2), including higher rates of preterm birth, mental illness, and maternal mortality compared to native born individuals (3). A study of the social determinants of health by Erikson and Carlson found that birthing individuals who immigrated to the United States were 71% more likely to experience maternal morbidity than their predominantly White non-immigrant, economically-secure, highly-educated counterparts (4). Newcomers to the United States, that is recent refugees and immigrants, are a particularly vulnerable population. Newcomers are affected by intersecting social determinants of health, including economic and

political disenfranchisement, as well as racial and ethnic minoritization. Research focused on the perinatal care needs of refugees and immigrants in the United States context is therefore an important component of improving maternal health outcomes in the United States.

Refugees and asylum seekers represent a large portion of the perinatal population in the US with unique challenges engaging with maternity care. In 2022, 23% of the 3.5 million births in the US were to foreign-born women, many of whom are immigrants and refugees (5). Immigrants and refugees experience limited access to perinatal care, stemming from structural, organizational, social, personal, and cultural barriers, which contribute to adverse maternal health outcomes (3). Barriers to receipt of quality care include language, discrimination, and lack of cultural competence (6). Evidence indicates that even in circumstances where complications in pregnancy could be effectively managed, women may hesitate to seek care if they have faced disrespectful treatment in the past, and they may also discourage others from seeking care (3, 7).

Individuals from Myanmar (Burma), represent a large and diverse portion of refugees throughout the world and in our geographic region of the United States (Denver, Colorado). Myanmar is a multi-ethnic country of 55 million people rife with internal conflict since achieving independence as a British colony in 1948. Over a half-century of civil wars in Myanmar has resulted in over 3 million internally displaced people and an estimated 1.4 million externally displaced people counted by the United Nations as refugees (8). An estimated 5,000 people from Myanmar, spread across multiple ethnic groups, have been resettled in metropolitan Denver over a 15-year period. Among those resettled in Denver are people representing multiple ethnic groups–including Rohingya, Karen, and Burmese Gurkhas. Over 80% of resettled peoples in Colorado are between the ages of 18–60; many of whom are young adults of childbearing age (9).

Given the specific risks facing refugee populations and the documented barriers to accessing quality care, there is a critical need to develop targeted interventions that promote respectful maternity care for communities like the Rohingya, Karen, and Burmese after resettlement in the US. Adoption of respectful maternity care (RMC) is proposed as a strategy to improve outcomes across populations, particularly for those experiencing health disparities. Respectful maternity care (RMC) is broadly defined as a philosophical approach to care with resultant skills and behaviors by birth practitioners that are person-centered (10). RMC "emphasizes the fundamental rights of women, newborns, and families, and that promotes equitable access to evidence-based care while recognizing the unique needs and preferences of both women and newborns" (11). Studies support positive associations between receipt of respectful care and clinical outcomes (12, 13). Most recently in the US, the Agency for Healthcare Research and Quality (AHRQ) introduced RMC as a key component of patient safety culture and is actively supporting investigation of RMC (14). Researchers have identified 12 domains of RMC, which include providing information and informed consent, maintaining privacy, and competent personnel (see Table 1 for full list of domains) (7, 10, 11, 14). Researchers studying the experiences of RMC of recent arrivals to the US have identified health care providers' behaviors inconsistent with RMC. Example behaviors include criticizing patients' choices regarding family structure and procreation (15). However, there is little known literature about how systems factors, such as routinized policies and procedures, contribute to RMC for newcomers.

TABLE 1 Domains of respectful maternity care (7, 10, 14).

Domains of respectful maternity care
Free from harm and mistreatment
Maintaining privacy
Preserving dignity
Prospectively providing information and informed consent
Access to family and community support
Enhancing the physical environment and resources
Providing equitable care
Effective communication
Respecting choices that strengthen a woman's capabilities to give birth
Competent personnel
Effective and efficient clinical care
Continuity of care

To better understand how system-level factors contribute to RMC for immigrants and refugees, we conducted a qualitative study to (1) explore the birthing experiences of South Asian immigrants and refugees, (2) identify what constitutes RMC for this unique population, and concurrently establish and sustain relationships with communities to inform the entire research process.

2 Materials and methods

2.1 Methodological orientation and theory

This study is the first portion of a larger project that seeks to identify and prioritize interventions that foster RMC among socially vulnerable communities. Employing thematic analysis qualitative research design, this part of the study utilized focus groups to explore participants' real-world experiences which will subsequently be used to generate actionable insights grounded in both theory and practice (16, 17). In this study we investigated community perceptions of care received during pregnancy and childbirth among refugee communities after arriving in the US acknowledging the power differential between recent arrivals to the US and the health care system and researchers, the project was developed and implemented using principles of community based participatory research (CBPR) (18). CBPR incorporates an emancipatory lens, and by nature is reflexive and interpretative inquiry (19). We applied the following principles of CBPR: (a) community as unit of identity, (b) build on strengths and resources within the community, (c) facilitate collaborative partnerships and power sharing that attend to social inequalities, (d) integrate and achieve balance between research and action, and (e) emphasize problems of local relevance (19–21). Using CBPR, we aim to lay the foundation for generating emancipatory knowledge that identifies by whom, about who, and for what purpose knowledge is generated. Appropriate ethics approval was obtained (COMIRB #23-1459).

2.2 Research team

The team was created as a partnership between researchers and members of a community organization. Team member skills include

mental health service delivery, maternity care research, community-based participatory research, and qualitative research methods. The primary researchers identified their positionality; all are practicing clinicians who provide either reproductive or mental health care for refugee populations (three certified nurse-midwives with research degrees and one mental health care provider with a clinical doctorate). All identify as women.

The research team engaged in reflexive examination of their professional and social positions. Professionally, the team brought a perspective on health care delivery as health care providers. Their clinical practice, situated within biomedical institutions yet aligned with principles of holistic care, informed their understanding of care delivery. During the study period, the team provided clinical care to individuals with medical and social risk and acknowledged both the necessity of medical intervention and the complexity of the care environment. They also recognized that overuse of interventions and medical patriarchy largely characterize labor and birth care in the US. The researchers recognized their limited familiarity with the cultural practices and birth-related expectations of South Asian communities. These roles and identities influenced how the team collected and interpreted the data.

Attention was given to relational dynamics between the research team and participant communities during both the interviews and data analysis. Differences in race, ethnicity, education, and social class were recognized as influencing the research relationship. Clinical experiences of the research team suggested that immigrant patients can demonstrate high levels of deference to health care providers, which may also influence interactions within the research setting. The team considered how this dynamic might manifest as compliance or appeasement in research encounters. Hence, the use of a focus group with community based, same-gendered, health navigators-as-language interpreters was selected as a strategy to shift the group power dynamics from answering to the researchers to talking among themselves.

Critical feminist theory served as a theoretical lens informing the study, influencing the researchers' attention on power, gender, and relational dynamics. At the same time, the researchers acknowledged the value of diverse epistemological perspectives and sources of knowledge beyond this framework. Importantly, data collection occurred during a period of political change (i.e., immigration policy), which was considered relevant to participant narratives. Reflexive engagement continued throughout the analysis and writing process, with attention to shifting assumptions and contextual influences on interpretation.

The community partner organization is a not-for-profit, community-based center that provides mental health services, education, and health care navigation tailored to the needs of Asian refugees and immigrants in an urban community in the Mountain West region of the United States. Two leaders in the center and three community navigators, who are also certified interpreters, participated in the research, including in the design of the research, conduct of focus groups, and member checking of data analysis. The full team met several times prior to conducting the focus groups to determine which language groups and individuals to include in enrollment, how to structure (location, timing, hospitality, etc.) the focus groups, and develop the focus group facilitator guide and key questions, The community navigators were present and engaged with the focus groups and afterward member checked the data analysis. One of the center leaders (G. T.) co-wrote the manuscript.

2.3 Participants and setting

The community where the study was conducted is racially, ethnically, and culturally diverse. An estimated 24% of the childbearing population reports a preferred language other than English or Spanish, with over 40 languages represented, including 20 different Asian languages (22). Common Asian languages included Burmese, Nepalese, Rohingya, and Farsi/Dari. The metropolitan area where the study was conducted has been a primary community for refugee resettlement over the last 40 years and is now home to thousands of people forced to flee Myanmar. Often these individuals from Myanmar spent considerable time living in refugee settlements in bordering Thailand before moving to the US.

Our community partner identified three populations based on spoken language that best represented the child-bearing individuals engaging with services at the community organization's center. Participants were purposively sampled from Karen-, Karenni-, and Nepali-speaking language communities to maximize representation of current refugee populations in this geographic area. Participants were eligible if they had recent experience receiving maternity care in the United States (within the last 3 years), were born outside of the US, came as a refugee, and identified Karen, Karenni, or Nepali as their first language. Participants were approached by community-based patient navigators and invited to attend the group if they met criteria and had interest in participation. It was not required that study participants receive services from the community organization, therefore it was not known if study participants engaged in the services (e.g., mental health services, language classes) provided by our community partner.

2.4 Data collection procedure

We conducted three focus groups consisting of 5–6 participants, 2 members of the research team, and a language interpreter. All focus groups were conducted in-person at the center of our community partner in a room typically used for staff meetings and education. Co-located childcare and compensation for time and travel were provided for participants. Each session lasted 3-h and included a shared meal from a local restaurant selected by center leaders. Each focus group discussion was dually-moderated: one researcher served as the primary moderator and focused on keeping the discussion moving openly and freely and the second researcher's role was to ensure that all topics were addressed. Researchers have experience with qualitative research and employed a researcher-as-instrument technique, acknowledging the experience and lens of the researchers as a tool for data collection and analysis (23). A semi-structured interview guide was developed with the community partner and reviewed by interpreters ahead of data collection. The primary questions were developed from the twelve domains of respectful maternity care and aimed at understanding "What behaviors, policies, or practices have you experienced in maternity care in the United States that made you feel respected or disrespected?" and "What can health care providers (nurses, midwives, physicians) do to provide more respectful care for people in your community during pregnancy?" Additional probes solicited information related to each of the domains of respectful maternity care, participants' friends and family perceptions about maternity care, and examples of potential

changes to practice that relate to each domain. Focus groups were facilitated freely, balancing the questions in the interview guide and the topics of highest importance to the participants. The full interview guide is available in the appendix.

2.4.1 Translation and interpretation

Each focus group was held in the primary language of the respective group (Karen, Karenni, Nepali) and interpreted in real-time, after every few sentences, to English by a certified interpreter of the respective language group. While some participants had English language proficiency, not all members did. In addition, it was the desire of the researchers that participants be able to speak freely and easily about their experiences in the language that was shared among them and most familiar. The research team had no language proficiency in Karen, Karenni, or Nepali. Language interpreters were also members of the community and served as community navigators, who connected members of the community to physical and mental health and social resources. Audio was recorded and the English audio auto-transcribed using Zoom®. Each English transcription was cleaned and reviewed for accuracy with the support of the original interpreter to resolve language questions using recorded audio in the primary, non-English language. Then each transcript and audio recording were reviewed and validated by a second certified interpreter for accuracy of the initial interpretation (24). Lastly, pull out quotes were edited for English language grammar, primarily to aid in readability.

2.5 Qualitative analysis

Qualitative data were analyzed thematically. Each transcription was synthesized by the research team in Atlas.ti (web version 25) using an iterative approach (25). Qualitative analysis commenced with the first focus group and was conducted simultaneously with data collection for the subsequent two groups. Initial key themes were incorporated into probes in later focus groups. First, three of the researchers read and immersed themselves in the transcripts and in the ten domains of RMC. Then, two researchers open-coded each transcript and generated initial codes (16). After initial independent coding, the research team refined codes to develop, review, and refine emerging themes. Ultimately, the final themes were defined and named with consideration of the RMC domains. Rigor was maintained by strategies including data immersion, use of multiple reviewers, creating an audit trail, frequent team member meetings for peer debriefing, and ongoing reflexive activities, member checking, and triangulation between three focus groups. The emergence of new themes was monitored across focus groups and found that by the third group, no substantially new themes were identified, suggesting that thematic saturation had been reached.

3 Results

Study participants included 15 individuals, ranging in age from 20 to 37 years old, with children ranging in age from 3 months to 14 years old. All participants gave birth in the US recently, a few participants had also previously given birth outside the US, mostly at a refugee relocation site in south Asia.

Five themes emerged from the analysis: (1) *interpersonal caring*, (2) *flaws in US maternity care are amplified for refugees*, (3) *multidimensionality effects knowledge, preferences, and expectations*, (4) *complexity of the US health system combined with unfamiliarity contributes to lack of confidence*, and (5) *problems with language interpretation.*

3.1 Interpersonal caring

Interpersonal caring reflects the verbal and physical expression of relational and emotional aspects of care between a patient and health care provider that recognizes and responds to their needs, either spoken or unspoken (26). Focus group participants expressed valuing this type of caring and stated that most of the individuals they encountered within the health care system (e.g., nurses, midwives, physicians) demonstrated caring. Participants mentioned that staff smiled at them, were kind to them, and used encouraging language.

> I remember when I push[ed] (during second stage labor) with my first daughter, I liked the midwife. I liked her words. She said, "you're a strong woman you can do this!" I became strong all of a sudden. I pushed two to three times, and my baby came out. I felt very weak when she didn't encourage me. Right after she started to encourage me, maybe my heart became stronger, I pushed harder. — Karen Participant

The participant's acknowledgement of the importance of verbal encouragement from providers supported her ability to give birth. Her observation indicates that the actions of providers, in this case, verbal encouragement, are important components of receipt of respectful care.

Many participants reported that gentle touch from providers was appreciated, although a few mentioned that providers were too rough with their infant and with themselves when they were in pain, thus perceived as a lack of caring. Participants stated that providers asked explicitly for permission and consent prior to exams, procedures, or treatments. They generally felt their autonomy was maintained and that their privacy was ensured during care. Participants said that during their hospitalization they valued being cared for in an intimate way through the meeting of physical needs. They specifically mentioned that food and hygiene supplies were provided and that nurses helped them to the bathroom postpartum. Participants expressed a desire to be supported with human presence and not being left alone.

> …things I like about having a baby here is that they take good care of you like your mom. Close, like your mom is close to you. — Nepali Participant

The participant described receiving care that felt deeply personal and intimate care that echoed the attentiveness one might associate with a mother. The comparison highlights an appreciation for a style of caregiving that goes beyond routine medical attention but rather emphasizes emotional presence, sensitivity, and the anticipation of needs. Such care is not merely about clinical competence but about relationship, where the caregiver is attuned to the patient's unspoken needs and responds with warmth, reassurance, and support.

This kind of intimacy in care, where needs are met before being voiced, reflects an appreciation of care rooted in human connection. This implies that maternity patients do not only require physical support, but also emotional connection during a time of physical exposure and psychological vulnerability.

3.2 Flaws in US maternity care are amplified for refugees

This theme recognizes the ways in which a flawed maternity care system creates additional challenges for refugee communities. Participants identified several issues with systems of care. These issues, detailed in several sub-themes, are well documented failings with US maternity care across populations but appeared magnified for the refugee community.

3.2.1 Early access to care

For example, participants described significant challenges with being unable to access care in early pregnancy. Many did not learn of their pregnancies until the second trimester, and several had multiple encounters with the health care system in which their pregnancy diagnosis was missed. One patient reported having had surgery and learning soon after that she was pregnant during the surgery.

> I think… for me… 14 or 11 weeks is too late. Too late… They say wait until "your… miscarriage period has been passed… There's a high chance of miscarrying before 12 weeks." If we had been seen from right after 6 or 7 weeks, you have more safety. — Nepali Participant

The participant is expressing the desire for entrance to care in pregnancy is soon after diagnosis of pregnancy rather than late in the first trimester, when the threat of miscarriage is significantly decreased. Like many pregnant patients, they expressed frustration with limited early pregnancy care and desired more face-to-face provider support in early pregnancy, especially when experiencing bleeding or miscarriage symptoms.

Participants similarly reported difficulty knowing when to come to the hospital for labor admission, often feeling uncertain about timing and fearing they might be sent home if they arrived too early. While this uncertainty is common for birthing patients, language barriers, unfamiliarity with the US health care system, limited childbirth education, transportation challenges, and limited social support made it especially challenging for this group.

3.2.2 Communication breakdowns and waiting

Participants expressed dissatisfaction with extended wait times in both outpatient and inpatient settings. In the outpatient setting, they reported delays in getting appointments, long waits in waiting rooms for procedures or labs, and additional time waiting for providers in exam rooms. Inpatient, some felt they were left alone for extended periods without clear communication about their care plan and perceived these delays as reflective of differential treatment based on language, skin color, or refugee status. One participant noted, "[t]hey thought, they can wait, they do not mind waiting" and felt health care staff disregarded participants' time constraints, such as needing to pick up children or attend other appointments. Poor communication about wait times, often due to language barriers, further exacerbated frustrations. Participants also reported canceled appointments or delayed care when interpreters were unavailable.

> They tell you, "Oh, we'll be back in a minute," and they give you the sign where you can beep if you have some emergency, and you call them sometime you feel thirsty. Sometimes you have to go into the bathroom, and they never come back like somebody will come back in 5, 6 hours like when another shift started, and if you if you call them, they will receive the call, and they say, "Oh, we'll be there shortly." And then they take half an hour. — Nepali Participant

The participant is describing how consistently poor communication combined with lack of follow through contributes to increasing distrust in the system as a whole. It was not known the circumstances of the providers that led to delays, but it is possible to conceive of precipitating factors leading to delays in care beyond their control and part of the larger systems issues related to inadequate staffing, high volume, or other issues.

3.2.3 Repetition in care

Participants expressed frustration with the repeated questioning during their birth hospitalization, particularly while they were in labor. One participant relayed being asked about pain in labor,

> They ask questions like "how are you doing?"… asking me when I have pain. They come in "how are you doing? How's the pain?" It goes like that. I nod and because then you wait a few hours and then come back. They keep asking that. They [are] not say anything. They just ask, "How you doing? How was the pain?" And it was really painful, how can they help? I hate it when I was in pain, like really pain… Can you lay down? Can you stand up? Can you sit? I was so mad, and they keep me asking. — Karen Participant

The participant reported being asked questions they had already answered prenatally—such as those about food security, home safety, and transportation—and felt disrespected when these were repeated, as if their initial responses had not been heard. They also noted that the Edinburgh Postnatal Depression Scale was administered too frequently and without adequate explanation, leading some to provide inaccurate answers to avoid further questioning. This burden was intensified by the time needed to communicate through an interpreter.

3.2.4 Logistical issues

Lastly, participants discussed practical issues of accessing care. For example, inconvenient or unavailable parking for prenatal visits and labor which is a common challenge in congested medical centers. One participant reported receiving multiple parking tickets, while others reported being late to appointments due to parking difficulties.

> [I had a] hard time parking. Yeah. So, like, I mean, I have 2 times ticket. The first one is that when I went in for the delivery, the second was appointments with my-after I have my kid, my baby. So I have like 2 time for ticket for parking. — Karenni Participant

There is a clear mismatch between what people expect from pregnancy care and what is provided. When considering data revealed

as part of this theme, it uncovers a current system designed primarily to support a business model, rather than one be responsive to the needs of individuals. Patients desire timely care, ease of access, and effective communication—yet these expectations frequently go unmet. The system appears to be structured to avoid use of time or resources on pregnancies that may result in miscarriage. With the availability of highly sensitive over-the-counter pregnancy tests, many people are aware of their pregnancies as early as 1 week after conception. This gap between early awareness and delayed access to care reveals a systemic failure to align with patients lived experiences and emotional needs during this vulnerable period. These systemic failures contribute to a growing distrust.

3.3 Multidimensionality effects knowledge, preferences, and expectations

This theme refers to the interaction of each participants' unique combination of lived experiences, personality, and culture that informs their specific desires for pregnancy care. Participants expressed a multidimensionality to their identity—a product of a lifetime of experiences which were complex and overlapping — that contributed to their experiences of care. Some contributors to their individual identities included the culture of their family of origin, the local community, their generation (i.e., Gen Z or Millennials), and/or the experience of being a refugee which often included experiences in a refugee camp and with resettlement in the US. While participants generally had similar culture of family of origin, they each applied this to the context of birthing within the US health system in a unique way. There was often an internal tension for participants in how culture and experience affected preferences.

This internal tension manifested in different ways. For example, participants agreed that within their cultures, there are traditional foods served to women postpartum. For some participants, access to traditional foods was very important, but others preferred American foods like pizza or French fries. However, participants consistently requested hot water for drinking and showers be made available postpartum in keeping with cultural traditions.

> [With] my first daughter, my mama brought me rice and a soup. It's not a normal-people soup. It's for when you give birth and you have to eat soup. I didn't like it at all. I ordered a hamburger and pizza. I like that food. I don't know why. — Karen Participant

> I told her "I don't want the cold water," so I asked her for the cold water to be hot water, she said, "Cold water?" "No, I want hot water." So she said, "Okay," and went to get the hot water. And also, the shower put out cold water as well. For us after delivery, we want hot water. So, our parents when we get home they warm the water, so we will shower with hot water, not cold water. — Karenni Participant

In relation to the broader purpose of the study, specifically, how the experience of care can inform system-level changes, the data suggest that providers should avoid making assumptions based on a patient's cultural background alone. It is insufficient, for instance, to say in a clinical handoff report, "This patient is from Nepal, therefore you should not offer her the hospital menu," or to automatically omit ice when filling her water jug. The findings indicate that many care decisions were driven by individual preferences rather than cultural consensus or dominant U.S. birthing norms about what patients "should" or "should not" do during labor. For example, while many participants opted for epidural analgesia, particularly during their first labor, others preferred unmedicated births. Similarly, although most participants expressed a strong preference for in-person antepartum and postpartum visits, some valued the flexibility and convenience of telehealth options. These variations emphasize the importance of person-centered care that respects individual preferences rather than relying on generalized cultural assumptions.

3.4 Complexity of the US health system combined with unfamiliarity contributes to lack of confidence

This theme reflects the disconnect between traditional health beliefs and the complexity of the biomedically-oriented, medical-technical model of care in the US. The biomedical model relies heavily on the use of technology and standardization of practices that aren't common across the world. This is particularly evident in a shift away from physiologic labor and increased use of labor induction and increasingly non-existent community based childbirth education programs. Participants recounted stories about their maternity care that reflected a limited information with pregnancy, birth, and newborn care in the US health system that led to communication breakdowns and limited confidence in the care they received.

In addition to a lack of familiarity with the US health system, participants noted health care providers not identifying their lack of familiarity. This resulted in participants not feeling confident to make requests about their care. An example was a participant recounting care after a cesarean birth when a nurse brought her cold water, not hot water as is customary in the participant's culture, and the patient not initially asking for hot water.

> And after she had that surgery, she's so thirsty because her blood came out a lot… and she's asking for water and nurse gave her cold water. She didn't know it herself at that time so, and when the water came she drank it. She's still thirsty. The nurse went to get the cold water again for her… So, after that she fainted… she slept a couple of days. Then she wake up in 2 days and she noticed that they give her cold water. And then after that she asked for hot water instead. —Karenni participant

The participant is conveying a mental association between consumption of cold water (as opposed to hot water) after birth and suboptimal outcomes (in this case the clinical effects of blood loss after birth). The necessity of only hot water consumption was a commonly held cultural belief in their community. Similarly, the research team understood that the participant's feeling thirst was a symptom resulting from a postpartum hemorrhage, and it was appropriate to give a patient recovering from a postpartum hemorrhage additional oral fluids. However, the healthcare providers nor the research team (who are also clinicians) made the connection between temperature of the oral fluids and the patient's desired response to oral fluid administration. The lack of the healthcare team's understanding of cultural expectations of oral fluid temperate contributed to the participant's reduced confidence, even if no such association exists.

Similarly, several participants across focus groups talked about feeling like the hospital staff had not kept their babies warm enough because they did not use enough blankets. They ascribed adverse sequalae to infants not being covered, as described in the following two quotes:

> The midwife delivered the kid, and they did not cover the baby fast. Since they took so long, that's why three of her kids also have yellow skin as well. They also put the kid under the light. The blue light. So, she felt like they were not helping in the lights (need more light and warmth). So, her kid's skin is so yellow, so she feels like they need to put more light on it. —Karenni participant

> … the way she delivered the baby, the baby was healthy, and everything's good. But in after like 8 hours, my baby's skin became yellow, and she also had a little bit of a runny nose. So, I feel like because of what they did-they took so long to cover her with the blanket. —Karenni participant

These statements revealed the limited exposure of healthcare recipients to the technical environments of healthcare in the US and the healthcare teams limited knowledge of cultural expectations in pregnancy and birth care (e.g., keeping the baby covered with a blanket, even under radiant heat). It would be unrealistic to expect that healthcare consumers would have knowledge or familiarity with highly technical equipment, like radiant heat warmers, or the use of phototherapy to treat hyperbilirubinemia. Yet, more knowledge of these treatments could have increased confidence in the care they were receiving. The stories about blanket use suggested that information about suffocation risks may not have been clearly communicated. Patients also described challenges understanding education provided by the health care team because they could not understand the rationale on infant care. The following quote describes a participant's experience with lactation teaching:

> We go to see our baby doctor, but when I give my daughter the nipple she [doctor] says it's not right, "when you give your daughter the nipple you have to put the whole thing." I told my husband "I can't do that!" Because in our country ladies do not do it like that [lots of laughter]. It's different. It's not easy here. You have to hold the baby like that [gestures holding a baby to the side instead of upright]. I don't know. It's not right [more laughter]. I'm about to cry. I can't do it like that. I'm so tired! —Karen

This quote, when considered alongside similar accounts, highlights a persistent disconnect between cultural expectations and the biomedical model of care delivery. If unaddressed, this gap can contribute to poorer health outcomes, increased morbidity, and diminished trust in the health system. While providers may emphasize the urgency of medical decisions, the use of coercive language—such as "if you do not consent, something bad will happen"—is inappropriate and can further erode patient trust. Instead, there is a critical need for tools and competencies that facilitate shared decision-making and bridge cultural and biomedical perspectives.

3.5 Problems with language interpretation

This theme highlights the challenges participants faced when accessing accurate and timely interpretation services during their maternity care. Participants in the focus group relied heavily on language interpretation to navigate the health system and communicate with individual members of the health care team. Limitations of interpretation were identified frequently. Participants reported having access mostly to telephone interpretation with occasional in-person interpretation for outpatient visits. A few participants stated that if they had a close family member who spoke English with them, they preferred to have that person interpret for them because they knew that person had their best interest in mind.

> Like something where my midwife, or a doctor, says something to me if I do not understand my husband translates for me. Because my husband and me, we are so close. Sometimes the interpreter is confusing. — Karen Participant.

The participant is describing the desire for interpretation from a family member over a service, particularly when they possess some, though limited, English proficiency. And while language interpretation was generally widely available, participants described several instances when an interpreter was not available. One participant said she had a prenatal visit rescheduled after she had already arrived at the clinic because the interpreter was not available. Other participants described not having an interpreter available during their births when they occurred at night.

> Sometimes they have a hard time getting an interpreter for her, so they just communicated in sign language. — Karenni Participant.

Participants reported that interpreters often added comments to their interpretation which made them question the accuracy of the interpretation. Participants shared a few stories of egregious behavior by interpreters, particularly when the interpreter was male. Participants reported being told not to ask specific questions of the health care provider, that the provider had already answered the question, or that the health care provider was not interested in the information the participant wanted to share with the health care provider. Participants reported that they shared the names of individual interpreters who repeatedly provided disrespectful service in their community and avoided them when possible. However, as patients, the participants had little control over initiating, terminating, or switching interpreters. They also shared that even when the interpreter was using a common first language, there were dialect shifts among immigrants to the US that limited the interpreter's ability to fully understand, especially if the interpreter was not located in the US.

> When he interpreted in-person, he wouldn't let me ask questions to the doctor. When I asked or tried to ask questions, he became impatient and mean. — Karen Participant referencing dilemmas with a male interpreter

> Pain was so difficult, and all the interpreter was, keep repeating, "What are you saying? What are you saying?" And she was like super mad, and she was saying, "Don't you hear what I'm saying?" I can understand English, although I don't know how to reply back, but when you're with a phone interpreter, they add stuff in the middle-what you are not saying. They just add it, and whatever stuff. — Nepali participant

These quotes illustrate some of the more concerning limitations of interpreter services, particularly when interpreters are based in regions where cultural expectations around gender, autonomy, and self-determination differ significantly from those in the US.

4 Discussion

Our study identified both positive and negative experiences among Southern Asian immigrant and refugee individuals who received pregnancy and birth care in the United States. While participants generally felt cared for by health care providers—including nurses, midwives, and physicians—they also reported significant challenges, particularly related to language barriers that adversely impacted their care. These barriers exacerbated systemic issues already present in the broader U. S. maternity care landscape. A lack of familiarity with the US health care system contributed to reduced confidence in both the care team and participants' own ability to engage in health-related decision-making. The diversity of participant experiences reflected the multidimensional nature of identity, expectations, and needs, revealing system-level gaps in culturally informed communication, trust-building, and explanatory practices. These findings underscore the need for system-level interventions—such as revised policies, protocols, and training programs—that prioritize and preserve respectful, person-centered care.

Among the prior studies conducted on refugee health care, a systematic review by Bradenberger and colleagues describes the "3C model," which identifies three interrelated, primary challenges for immigrants navigating health systems in high-income countries; confidence, communication, and continuity of care (27). In this study, we found agreement with the body of literature informing the "3C model." In addition, we propose inclusion of a fourth relevant concept– *caring.* Caring, conceptualized as a relationship between caregiver and patient that is grounded in compassion, dignity, love, attention, and authentic presence, is a central tenet of respectful maternity and nursing care (26). This study identified interpersonal care as the most influential factor shaping patients' perceptions of respectful treatment during labor and birth. These values are expressed through providers' actions: addressing physical and emotional needs, sharing information through teaching, and offering a presence that fosters emotional expression (26). Caring manifested in both practical tasks, such as assisting with mobility, and more intangible forms, such as providing calm, supportive companionship. During labor, when individuals may be unable to advocate for themselves, the presence of someone attuned to their needs is especially important. This type of intimate, responsive care is often lacking in the dominant medical-technical model of U. S. maternity care, which prioritizes efficiency and risk reduction over relational aspects of care. As a result, the nurturing, mother-like support described by participants is frequently undervalued or absent, contributing to feelings of neglect or disrespect during a time of heightened vulnerability. For hospitals to embrace caring in this sense, they must prioritize and invest in high-quality nursing care. In the United States, where most births occur in hospitals and there is a persistent shortage or notable absence of midwives and obstetricians, nurses play a vital role. Small actions, such as how a patient is addressed or touched, carry deep meaning in the context of childbirth. Recognizing and supporting these elements is essential to achieving respectful, person-centered maternity care.

Second, specific patterns or preferences for care based on cultural preference across communities were not identified. Rather, the data affirmed the importance of approaches to care that acknowledge the uniqueness of each individual and consider the impact of culture and life experiences on patients' preferences and expectations. Health care provider training often emphasizes the delivery of "culturally competent" care. While the underlying intent is important, implementation frequently centers on avoiding the imposition of the provider's own cultural framework, rather than actively engaging with the diverse values and needs of patients. This finding highlights the critical importance of person-centered care—approaches that recognize everyone as a unique person with distinct beliefs, preferences, and expectations for care. Effective perinatal care does not mean offering all patients the same things, but tailoring care to their expressed needs (28). A study on experiences with perinatal care in California presented findings affirming that recent immigrants and women of color are less likely to report receipt of person-centered care (29). Individualized, person-centered care requires health care providers to first *ask*, then *listen*, *understand,* and *attend to* each person's values and needs, allowing for the adaptation of care to best meet them.

Study participants expressed expectations for care that reflected their evolving identities as individuals living in the US, often referencing rights-based frameworks and asserting, "We live here now," or "This is what it is like here." These statements emphasized a shift toward expecting autonomy and respectful treatment consistent with US norms. At the same time, participants highlighted interpreters' limited capacity to navigate the high-intensity and gendered environment of labor and birth—limitations that were sometimes, though not always, related to the interpreter's gender. The data suggest that interpreters who are women and who possess familiarity with both US cultural norms and those of the country of origin may be uniquely positioned to bridge both worlds and provide more effective, culturally responsive interpretation during childbirth.

The data supported that language interpretation is multi-dimensional and involves more than exclusively verbal translation. Gaps in interpretation services were particularly evident during labor and birth, which are often hectic environments with shouting, crying, multiple people talking at the same time providing various instructions, and simultaneous verbal and non-verbal communication. Although US government standards for language interpretation emphasize accuracy and reliability (30), our findings revealed shortcomings in interpreters' awareness of the clinical context (e.g., a birth suite, activity in the room, equipment, people) and in their ability to communicate patient needs in that environment (31–33). Participants dissatisfaction with interpretation services was evident in their expressed desire to have family fill that role, especially when intimacy and proximity were useful for communicating needs, particularly nonverbal (e.g., facial expressions or gestures). Gender differences also appeared to contribute to interpretation difficulties, such as when a male translator was communicating about vaginal and cervical exams. Illustrations from the data included translator lack of familiarity with female-specific care (e.g., "he does not say the right thing") and gender-related cultural implications (e.g., being told by a male translator in their home country, where women are less empowered, that they were asking too many questions).

Participants described how family members, despite limited English proficiency or lack of medical vocabulary, were able to meet interpretation needs in ways professional services often did not. Participants acknowledge that family members may not be equipped to interpret important clinical content, like informed consent, yet they

valued their presence for conveying emotional needs and avoiding the burden of verbalizing every request through an intermediary. This preference, while at odds with prevailing best practices, evidence, and polices for interpretation, was strongly expressed (34, 35). In obstetrics, literature focuses on interpretation of information communicated by the provider to the patient (36, 37). However, there is minimal published data available that conveyed similar information to what was learned in this study-the voice of those giving birth and their explanations for preference of family members to interpret during labor and birth. The results of our study offer a perspective on use of family members for interpretation that requires further examination.

Lastly, our findings are consistent with previous studies based on the experiences of women of color in pregnancy and birth, citing lack of information or incomplete information leading to feeling less cared for or respected during the perinatal period (38). Limited or incomplete information about pregnancy and childbirth and care delivered by the health system (particularly related to technology and equipment) is a factor that limits decision making and reduces confidence in navigating health care. Education may also help bridge the gap between cultural traditions and the biomedical model, or at a minimum, equip individuals with tools for effective self-advocacy in meeting cultural expectations from care providers. This is particularly salient when cultural expectations bring added benefit, such as increasing trust and confidence. Many of the barriers identified—such as limited health system literacy and delayed access to prenatal care—are not unique to immigrant populations but are intensified by language barriers and unfamiliarity with the U. S. health system. These structural limitations inhibit self-advocacy and autonomy in health care decision-making (39, 40).

4.1 Recommendations

Based on the results of this study, the next step will be to identify system-level interventions that improve birth experiences for refugee communities. We identified preliminary recommendations based on these findings. First, person-centered maternity care system requires implementing evidence-based practices, discontinuing ineffective ones, and incorporating culturally meaningful care. Doula care has emerged as a promising intervention, yet participants reported no prior engagement and expressed uncertainty about involving non-family community members. Doulas can serve dual roles, offering labor-specific language interpretation and emotional support, with evidence showing improved outcomes and communication across clinical, environmental, and interpersonal domains (41–43). Integration of a dual interpreter and support model has shown early success (44–46), barriers remain regarding reimbursement and the clinical role of non-licensed doulas, though recent Medicaid expansions may offer solutions (47). Our data also indicate that doula care may not require language and cultural concordance to be effective as the doula may explain the health care environment and practices to be more understandable to the family even through use of a third party interpreter. Additional research is needed to determine the features most associated with improved outcomes and satisfaction for the newcomer population.

Secondly, broader system reforms are also necessary, including eliminating wait times and fragmented services, improving language access with gender-aligned, in-person interpreters familiar with childbirth (48), and investing in high-quality nursing care. To implement these recommendations requires systems and processes of care that promote quality patient-provider interactions. Staffing models that enable continuous bedside presence, such as 1:1 nurse-to-patient ratios during active labor can enhance relational care and reduce nurse burnout (49). Building relationships between patients and providers during prenatal care can be accomplished more effectively through implementing continuity of care models (50), thus decreasing the need for patients repeatedly communicate their values and preferences. Finally, community-based childbirth education and group prenatal care can bridge cultural and biomedical knowledge, strengthen preparedness and support, and serve as critical entry points for immigrant and refugee families (51).

4.2 Strengths and limitations

As contextually situated qualitative researchers, we found a tension between participant's belief systems, cultural traditions, health education, and the biomedical model that we were not always able to differentiate. For example, a few participants mentioned that providers left their babies naked and uncovered for a prolonged period which they attributed to later development of hyperbilirubinemia. Maintaining infant core temperature is medically important, however this was likely achieved in these scenarios with a radiant warmer and low temperature is not associated with development of hyperbilirubinemia. Participants did not possess information about radiant warmers and maintenance of body temperature, and therefore it was unclear to us whether use of blankets for an infant is related to a belief system, a cultural practice, or knowledge about physiology and information about use of medical technology to support infant temperature, thus a reflection of disconnects between traditional health beliefs and biomedical models of care.

A major contextual limitation of this study is sampling from a single service area. Based on the communities where data collection took place, participants are likely reporting their experiences with care in just 2 clinical sites. Providers who deliver care in these sites are familiar with providing care to these communities, as it has been a major site for refugee resettlement for the last 15 years. Therefore, the care experiences of these communities in a service area with a significantly greater experience in delivering refugee care may differ greatly than the experiences of communities in the US without refugee-dense populations. Second, interpretation between languages is a limitation that may have limited the researchers complete understanding of data and participant meaning. Further, the sample size was relatively small from just three language groups. While thematic saturation was met in this sample, other communities and individuals may have different experiences not captured in the data. Lastly, the community is served largely by midwifery-led models of care, with the largest concentration of midwifery care in the state (40% and higher midwife-attended birth). Because midwifery care is not accessible in large parts of the country, the study may refer to experiences with providers that are less common.

The study benefitted from a robust amount of data from three different immigrant communities. Additionally, participants were able to share their experiences in their preferred language, and interpreters were experienced with health care and cultural translation between the community and the researchers. Further, this study was strengthened by a community based participatory research approach with active engagement of the community in developing the research questions and

methods. The use of the RMC framework to guide the interviews and analysis supported methodological rigor, contextualizing the researcher in a larger discussion about maternity care globally. Further, it supported deeper interpretation of the data by connecting the individual experiences of participants to broader patterns.

5 Conclusion

This study explored the pregnancy and birth care experiences of Southern Asian immigrant and refugee communities in the U. S., revealing both strengths and critical system-level shortcomings. Participants generally felt cared for by providers, yet faced substantial language barriers, limited familiarity with the U. S. health system, and challenges with communication that undermined confidence and self-advocacy. These findings reinforce and expand upon the "3C" model—confidence, communication, and continuity—by proposing a fourth concept: caring. Respectful care was most often conveyed through interpersonal actions, underscoring the need for health systems to invest in high-quality, relationship-centered nursing care. Key recommendations include improving interpretation services to be more context-and person-aware, integrating culturally and linguistically concordant doulas, enhancing access and system navigation, promoting continuity of care, and reinvesting in community-based childbirth education. Collectively, these interventions support a more person-centered approach to perinatal care that recognizes individual preferences, cultural contexts, and the value of human presence during birth.

There is a strong need, and desire among many, to improve the quality of maternity care delivered in the United States. Using the domains of RMC, we were able to identify themes that can inform actionable recommendations to improve care. Immigrants and refugees to the US are an increasingly larger community who engage now and will continue to be participants in the maternity care system. This study offers insights into their experiences that can be transformed into meaningful interventions for care providers.

Data availability statement

Raw, deidenitified data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by Colorado Multiple Institutional Review Board. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

DS: Resources, Funding acquisition, Conceptualization, Writing – review & editing, Project administration, Validation, Writing – original draft, Software, Methodology, Visualization, Data curation, Investigation, Formal analysis, Supervision. ET: Investigation, Writing – review & editing, Funding acquisition, Data curation, Writing – original draft, Supervision, Software, Validation, Resources, Methodology, Visualization, Formal analysis, Conceptualization, Project administration. NT: Validation, Investigation, Resources, Conceptualization, Writing – review & editing, Project administration, Funding acquisition, Writing – original draft. KK: Resources, Funding acquisition, Conceptualization, Writing – review & editing, Project administration, Validation, Writing – original draft, Software, Methodology, Visualization, Data curation, Investigation, Formal analysis, Supervision.

Funding

The author(s) declare that financial support was received for the research and/or publication of this article. The work was supported by Health Resources and Services Administration T6852009 NIH/NCATS Colorado CTSA grant numbers K12 TR004412 and UM1 TR004399.

Acknowledgments

We acknowledge Elizabeth Phillips, B.A and Sarah Eskew, B.A. for their administrative support on this project.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The authors declare that no Gen AI was used in the creation of this manuscript.

Publisher's note

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpubh.2025.1613249/full#supplementary-material

References

1. Fleszar LG, Bryant AS, Johnson CO, Blacker BF, Aravkin A, Baumann M, et al. Trends in state-level maternal mortality by racial and ethnic Group in the United States. *JAMA*. (2023) 330:52–61. doi: 10.1001/jama.2023.9043

2. Hailu EM, Maddali SR, Snowden JM, Carmichael SL, Mujahid MS. Structural racism and adverse maternal health outcomes: a systematic review. *Health Place*. (2022) 78:102923. doi: 10.1016/j.healthplace.2022.102923

3. Heslehurst N, Brown H, Pemu A, Coleman H, Rankin J. Perinatal health outcomes and care among asylum seekers and refugees: a systematic review of systematic reviews. *BMC Med*. (2018) 16:89. doi: 10.1186/s12916-018-1064-0

4. Erickson EN, Carlson NS. Maternal morbidity predicted by an intersectional social determinants of health phenotype: a secondary analysis of the NuMoM2b dataset. *Reprod Sci*. (2022) 29:2013–29. doi: 10.1007/s43032-022-00913-2

5. Pew Research Center. Facts on U.S. immigration, 2018. (2020). Available at: https://www.pewresearch.org/race-and-ethnicity/2020/08/20/facts-on-u-s-immigrants/

6. Fitzgerald EM, Cronin SN, Boccella SH. Anguish, yearning, and identity: toward a better understanding of the pregnant Hispanic woman's prenatal care experience. *J Transcult Nurs*. (2016) 27:464–70. doi: 10.1177/1043659615578718

7. Shakibazadeh E, Namadian M, Bohren MA, Vogel JP, Rashidian A, Nogueira Pileggi V, et al. Respectful care during childbirth in health facilities globally: a qualitative evidence synthesis. *BJOG*. (2018) 125:932–42. doi: 10.1111/1471-0528.15015

8. Myanmar Situation. (2025). Available online at: https://data.unhcr.org/en/situations/myanmar

9. Colorado Health Institute. Colorado Lotus Project A Statewide Look at the Strengths and Barriers Facing Colorado's Asian American and Native Hawaiian and Other Pacific Islander Communities [Internet]. (2024). Available online at: https://www.coloradohealthinstitute.org/sites/default/files/2024-05/Colorado%20Lotus%20Project%20Web.pdf (Accessed July 21, 2025).

10. Butler MM, Fullerton J, Aman C. Competencies for respectful maternity care: identifying those most important to midwives worldwide. *Birth*. (2020) 47:346–56. doi: 10.1111/birt.12481

11. Reis V, Deller B, Catherine Carr C, Smith J. Respectful maternity care country experiences survey report [Internet].(2012). Available online at: https://content.sph.harvard.edu/wwwhsph/sites/2413/2016/12/RMC-Survey-Report_0.pdf (Accessed July 21, 2025).

12. Attanasio LB, Ranchoff BL, Paterno MT, Kjerulff KH. Person-centered maternity care and health outcomes at 1 and 6 months postpartum. *J Womens Health (Larchmt)*. (2022) 31:1411–21. doi: 10.1089/jwh.2021.0643

13. Liu C, Underhill K, Aubey JJ, Samari G, Allen HL, Daw JR. Disparities in mistreatment during childbirth. *JAMA Netw Open*. (2024) 7:e244873-e. doi: 10.1001/jamanetworkopen.2024.4873

14. Cantor AG, Jungbauer RM, Skelly AC. Agency for Healthcare Research and Quality. Rockville, MD: AHRQ Publication. (2024).

15. Hamid A, Grace KT, Warren N. A Meta-synthesis of the birth experiences of African immigrant women affected by female genital cutting. *J Midwifery Womens Health*. (2018) 63:185–95. doi: 10.1111/jmwh.12708

16. Braun V, Clarke V. Thematic analysis. Analysing qualitative data in psychology London: Sage Publications Ltd. (2021):128–147.

17. Percy WH, Kostere K, Kostere S. Generic qualitative research in psychology. *Qual Rep*. (2015) 20:76–85. doi: 10.46743/2160-3715/2015.2097

18. Cassell C, Johnson P. Action research: explaining the diversity. *Hum Relat*. (2006) 59:783–814. doi: 10.1177/0018726706067080

19. Wallerstein N, Duran B. Community-based participatory research contributions to intervention research: the intersection of science and practice to improve health equity. *Am J Public Health*. (2010) 100:S40–6. doi: 10.2105/AJPH.2009.184036

20. Minkler M, Wallerstein N. Community-based participatory research for health: From process to outcomes. San Francisco, California: John Wiley & Sons (2011).

21. Sánchez V, Sanchez-Youngman S, Dickson E, Burgess E, Haozous E, Trickett E, et al. CBPR implementation framework for community-academic partnerships. *Am J Community Psychol*. (2021) 67:284–96. doi: 10.1002/ajcp.12506

22. Smith DC, Reed S, Thumm EB, Willems E, Staley A, Hernandez T, et al. Impact of a Sudden Shift to Telehealth on Pregnancy/non-Pregnancy Visits in a Nurse-Midwifery Service. Washington, D.C: Council for the Advancement of Nursing Science (2022).

23. Pezalla AE, Pettigrew J, Miller-Day M. Researching the researcher-as-instrument: an exercise in interviewer self-reflexivity. *Qual Res*. (2012) 12:165–85. doi: 10.1177/1468794111422107

24. Squires A. Methodological challenges in cross-language qualitative research: a research review. *Int J Nurs Stud*. (2009) 46:277–87. doi: 10.1016/j.ijnurstu.2008.08.006

25. Creswell JW, Creswell JD. Research design: Qualitative, quantitative, and mixed methods approaches. Thousand Oaks, California: SAGE Publications (2017).

26. Watson J. The theory of human caring: retrospective and prospective. *Nurs Sci Q*. (1997) 10:49–52. doi: 10.1177/089431849701000114

27. Brandenberger J, Tylleskär T, Sontag K, Peterhans B, Ritz N. A systematic literature review of reported challenges in health care delivery to migrants and refugees in high-income countries - the 3C model. *BMC Public Health*. (2019) 19:755. doi: 10.1186/s12889-019-7049-x

28. Altman MR, McLemore MR, Oseguera T, Lyndon A, Franck LS. Listening to women: recommendations from women of color to improve experiences in pregnancy and birth care. *J Midwifery Womens Health*. (2020) 65:466–73. doi: 10.1111/jmwh.13102

29. Altman MR, Afulani PA, Melbourne D, Kuppermann M. Factors associated with person-centered care during pregnancy and birth for black women and birthing people in California. *Birth*. (2023) 50:329–38. doi: 10.1111/birt.12675

30. US Department of Health and Human Sercices. Culturally and Linguistically Appropriate Services [Internet]. Think Cultural Health. (2020). Available from: https://thinkculturalhealth.hhs.gov/clas

31. Young G. Personhood across disciplines: applications to ethical theory and mental health ethics. *Ethics Med Public Health*. (2019) 10:93–101. doi: 10.1016/j.jemep.2019.100407

32. Miletich M. Accounting for nonverbal communication in interpreter-mediated events in healthcare settings. *Trans. Translanguag. Multiling. Contexts*. (2015) 1:162–81. doi: 10.1075/ttmc.1.2.02mil

33. Bolden GB. Understanding interpreters' actions in context. *Commun Med*. (2020) 15:135–49. doi: 10.1558/cam.38678

34. Karliner LS, Jacobs EA, Chen AH, Mutha S. Do professional interpreters improve clinical care for patients with limited English proficiency? A systematic review of the literature. *Health Serv Res*. (2007) 42:727–54. doi: 10.1111/j.1475-6773.2006.00629.x

35. Locatis C, Williamson D, Gould-Kabler C, Zone-Smith L, Detzler I, Roberson J, et al. Comparing in-person, video, and telephonic medical interpretation. *J Gen Intern Med*. (2010) 25:345–50. doi: 10.1007/s11606-009-1236-x

36. Truong S, Foley OW, Fallah P, Lalla AT, Osterbur Badhey M, Boatin AA, et al. Transcending language barriers in obstetrics and gynecology: a critical dimension for health equity. *Obstet Gynecol*. (2023) 142:809–17. doi: 10.1097/AOG.0000000000005334

37. Le Neveu M, Berger Z, Gross M. Lost in translation: the role of interpreters on labor and delivery. *Health Equity*. (2020) 4:406–9. doi: 10.1089/heq.2020.0016

38. Altman MR, Oseguera T, McLemore MR, Kantrowitz-Gordon I, Franck LS, Lyndon A. Information and power: women of color's experiences interacting with health care providers in pregnancy and birth. *Soc Sci Med*. (2019) 238:112491. doi: 10.1016/j.socscimed.2019.112491

39. Yeo S, Park Y, McClelland DJ, Ehiri J, Ernst K, Magrath P, et al. A scoping review of maternal health among resettled refugee women in the United States. *Front Public Health*. (2023) 11:1157098. doi: 10.3389/fpubh.2023.1157098

40. Sudhinaraset M, Kolodner RA, Nakphong MK. Maternity Care at the Intersections of language, ethnicity, and immigration status: a qualitative study. *Womens Health Issues*. (2023) 33:618–25. doi: 10.1016/j.whi.2023.04.004

41. Bohren MA, Hofmeyr GJ, Sakala C, Fukuzawa RK, Cuthbert A. Continuous support for women during childbirth. *Cochrane Database Syst Rev*. (2017). doi: 10.1002/14651858.CD003766.pub6

42. Mallick LM, Thoma ME, Shenassa ED. The role of doulas in respectful care for communities of color and Medicaid recipients. *Birth*. (2022) 49:823–32. doi: 10.1111/birt.12655

43. Falconi AM, Bromfield SG, Tang T, Malloy D, Blanco D, Disciglio RNS, et al. Doula care across the maternity care continuum and impact on maternal health: evaluation of doula programs across three states using propensity score matching. *eClinicalMedicine*. (2022) 50:101531. doi: 10.1016/j.eclinm.2022.101531

44. Schytt E, Wahlberg A, Small R, Eltayb A, Lindgren H. The community-based bilingual doula – a new actor filling gaps in labour care for migrant women. Findings from a qualitative study of midwives' and obstetricians' experiences. *Sex Reprod Healthc*. (2021) 28:100614. doi: 10.1016/j.srhc.2021.100614

45. Maher S, Crawford-Carr A, Neidigh K. The role of the interpreter/doula in the maternity setting. *Nurs Womens Health*. (2012) 16:472–81. doi: 10.1111/j.1751-486X.2012.01775.x

46. Purandare R, Ådahl K, Stillerman M, Schytt E, Tsekhmestruk N, Lindgren H. Migrant women's experiences of community-based doula support during labor and childbirth in Sweden. A mixed methods study. *Sex Reprod Healthc*. (2024) 41:101000. doi: 10.1016/j.srhc.2024.101000

47. Hasan A. State Medicaid approaches to doula service benefits National Academy for state health policy. (2022). Available online at: https://nashp.org/state-tracker/state-medicaid-approaches-to-doula-service-benefits/

48. Susam-Saraeva Ş, Fonseca LC. Translation in maternal and neonatal health In: SS Susam-saraeva and E Spišiaková, editors. The Routledge handbook of translation and health. Abingdon: Routledge (2021). 348.

49. Li LZ, Yang P, Singer SJ, Pfeffer J, Mathur MB, Shanafelt T. Nurse burnout and patient safety, satisfaction, and quality of care: a systematic review and Meta-analysis. *JAMA Netw Open*. (2024) 7:e2443059-e. doi: 10.1001/jamanetworkopen.2024.43059

50. de Labrusse C, Ramelet A-S, Humphrey T, Maclennan SJ. Patient-centered Care in Maternity Services: a critical appraisal and synthesis of the literature. *Womens Health Issues*. (2016) 26:100–9. doi: 10.1016/j.whi.2015.09.003

51. Lewis JB, Cunningham SD, Shabanova V, Hassan SS, Magriples U, Rodriguez MG, et al. Group prenatal care and improved birth outcomes: results from a type 1 hybrid effectiveness-implementation study. *Prev Med*. (2021) 153:106853. doi: 10.1016/j.ypmed.2021.106853

frontiers | Frontiers in Public Health

TYPE Original Research
PUBLISHED 14 August 2025
DOI 10.3389/fpubh.2025.1582628

OPEN ACCESS

EDITED BY
Maria-Isabel Roldos,
The City University of New York, United States

REVIEWED BY
Teresa Spadea,
Local Health Authority Torino 3, Italy
Merve Bat Tonkus,
Istanbul Yeni Yüzyıl University, Türkiye
Tugce Ucgun,
Başkent University, Türkiye

*CORRESPONDENCE
Báltica Cabieses
✉ bcabieses@udd.cl

RECEIVED 24 February 2025
ACCEPTED 30 July 2025
PUBLISHED 14 August 2025

CITATION
Blukacz A, Oyarte M, Cabieses B, Madrid P and Obach A (2025) Mental health and the healthy immigrant effect in Chile: a comparative cross-sectional study with international migrants and locals. *Front. Public Health* 13:1582628. doi: 10.3389/fpubh.2025.1582628

Mental health and the healthy immigrant effect in Chile: a comparative cross-sectional study with international migrants and locals

Alice Blukacz[1], Marcela Oyarte[2], Báltica Cabieses[1,3]*, Paula Madrid[1] and Alexandra Obach[1]

[1]Centro de Salud Global Intercultural, Facultad de Medicina Clínica Alemana y Facultad de Psicología, Universidad del Desarrollo, Santiago, Chile, [2]Instituto de Salud Pública, Santiago, Chile, [3]Department of Health Sciences, University of York, York, United Kingdom

Introduction: The question of whether international migrants appear to be in better health than the locals, and whether this "healthy immigrant effect" declines over time is a highly relevant one, especially with regards to mental health. Based on a community-based survey conducted in Santiago, Chile, this study compares the mental health outcomes of international migrants versus local populations and examines differences within the international migrant group of respondents.

Methods: Observational cross-sectional study. Data was collected with international migrants and Chilean participants in 2021–2022 through a structured questionnaire. The study examined self-reported stress and mood disorders in relation to demographic, socioeconomic, health, and migration-related factors. Descriptive analyses were conducted for all variables overall and stratified by perceived stress, mood disorders, and migration status. Associations were assessed using Chi-square or Fisher's exact tests, with Cramer's V used to evaluate effect size. Multiple imputation (m = 5) addressed missing data using the mice package in R, followed by generalised logistic regression models fitted across imputed datasets and combined using Rubin's rules; stepwise selection based on AIC was used for variable reduction, and models were run for the full sample and separately for the migrant population.

Results: The sample included 1,656 international migrants and 1,664 locals. Being a migrant was negatively associated with reporting stress and mood disorders in all analyses. Among migrants, the main risk factors for stress were perceiving a high number of migrants in the neighbourhood and having experienced abuse as a migrant and for mood disorders the main risk factor was reporting having experienced abuse as a migrant as well as a longer stay in Chile.

Discussion: We found a healthy immigrant effect for mental health among international migrants in Chile, which declined over time in the case of mood disorders. Chilean participants reported very high levels of mental health issues, consistent with existing studies. However, results for international migrants highlight both risk and protective factors linked to migration processes, which are unique to them, warranting a specific approach to their mental health needs.

KEYWORDS

international migrants, mental health, social determinants of health, Chile, Latin America

1 Introduction

The latest estimate sets the population of international migrants worldwide at 281 million, twice the number it was 1990 (1). The effect of international migration on the health of international migrants is a topic of growing interest, especially with regards to mental health. Migration is recognised as a social determinant of mental health, as it involves processes that interact with other social determinants of health and may amplify existing inequities (2). However, there is inconsistent evidence on whether migration has a positive or negative influence on mental health outcomes, considering that some studies find that international migrants show a higher prevalence of a variety of mental health issues than their local counterparts, while others do not (3–5).

The healthy immigrant effect is a phenomenon where immigrants are generally healthier than native-born populations in their host countries, which may be explained by positive self-selection and cultural buffering (6, 7). This effect has been observed in various countries, but it is not universal (8, 9). Furthermore, the evidence shows that immigrants' health advantage tends to diminish over time as they might adopt some of the host country unhealthy behaviours (6, 10). With regards specifically to mental health, some studies support the existence of a health immigrant effect as well (11–13). For instance, there are studies showing a mental health advantage among migrants compared to locals, particularly among migrants from countries of origin that are less developed than the country of arrival, and among migrants belonging to ethnic minorities (11, 12, 14).

However, international migrants' mental health "advantage" may not apply universally across all immigrant groups and can vary by factors such as country of origin and ethnic minority status (4, 15). Notably, some research finds no significant differences between immigrants and native-born individuals, especially for those from English-speaking backgrounds (16). Furthermore, several studies suggest that immigrants' mental health tends to decline over time (3, 12, 17). Additionally, barriers to mental health care access, including cultural and economic factors, contribute to the underutilization of services by immigrants, and thus, possibly, underdiagnoses and underreporting of mental health issues (18, 19). Despite a potential health immigrant effect, the mental health of international migrants is a cause for concern, as they face a higher likelihood of experiencing adverse situations and stressors that could deteriorate their mental health, such as discrimination, trauma, and social isolation (2). While mental health issues can be developed due to biological preconditions, several socially determined factors influence mental health outcomes, including socioeconomic status, family dynamics, social support, and acculturative stress (13, 20). In this context, migrants may particularly be at risk, especially when facing dangerous migratory trajectories, which can lead to experiencing symptoms of post-traumatic stress disorder, anxiety, and depression (21).

Chile is a high-income country according to the World Bank (22), although it is highly unequal, with 50% of the population earning less than USD600 a month and 16.9% of the total population experiencing multidimensional poverty (23, 24). Regarding mental health indicators, a study conducted in 2019 by the Pan American Health Organisation (PAHO) showed that Chile was among the countries with the worst mental health outcomes in the Americas, as mental health disorders accounted for 2,079.29 Disability-Adjusted Life Years and 2,073.44 Years Lived with Disability per 100.000 population (25). Although some progress has been made to address mental health at the healthcare system level, such as including several mental disorders as part of priority health issues for funding, allowing for easier access to treatment, mental health remains largely insufficiently addressed (26).

Regarding international migration, Chile has experienced a rapid increase in its migrant population. While in 2014, 410,988 international migrants lived in the country, 1,306,859 did in 2018, and the current estimate indicates that 1,918,583 international migrants currently live in Chile, representing almost 10% of the total population (27, 28). The composition of immigration flows also changed, with migrants from Venezuela replacing migrants from Peru as the largest community in Chile from 2018 onwards (29). Most international migrants in Chile are currently from these two countries, followed by Colombian, Haitian, and Bolivian nationals. Although international migrants in Chile are a highly diverse population group, they tend to experience worse socioeconomic conditions than their local counterpart as a whole, and 29.6% experience multidimensional poverty, almost twice as much as the Chilean population (30). Additionally, during the COVID-19 pandemic, an increasing number experienced highly precarious migratory trajectories that included entering the country through non authorised crossing paths by foot and facing the near-impossibility of regularising their migratory status as a result (31).

There are some studies comparing the mental health of international migrants with the locals' in Chile, and the earliest, conducted in 2007–2008 with migrants mostly from Peru showed a lower prevalence of common mental disorders than among Chileans (32). Another more recent study focused on anxiety and depressive symptoms among Colombian migrants and Chilean nationals also found a higher prevalence of mental health issues among the local population (33). A third study conducted with Peruvian migrants and locals in Chile also found a higher prevalence of common mental disorders among the latter than the former (34). However, other studies highlighted that specific factors could affect the mental health of migrant populations in the country, such as acculturative stress, challenging migratory trajectories, including dangerous conditions of transit to Chile, difficulties to regularise their migratory status, and socioeconomic conditions (35–38). Additionally, these factors may have been exacerbated during the COVID-19 pandemic (39).

In this context, based on a unique community-based survey conducted in the capital city of Santiago, this study first compares the mental health outcomes of international migrants versus local populations and then examines differences within the international migrant group of respondents. The research questions guiding this study are the following: Is there a healthy immigrant effect for mental health among international migrants in Chile? What are the risk and

protective factors for mental health among international migrants in Chile?

2 Materials and methods

2.1 Study design

Observational cross-sectional study, part of the larger research project "Living and health trajectories of international migrants to Chile: how do they compare to the locals and what are their related costs to the healthcare system?" (Fondecyt Regular 1201461 ANID Chile). The main objective of the overall research project is to analyse the trajectories of international migrants to Chile, including living standards, access to and use of healthcare, health status, costs, and consequences of including them to the healthcare system, and compare them to the trajectories of the Chileans over time. The data presented in this article was collected as part of sub study 2 of the project, which is a community-based longitudinal survey of two measures (baseline and follow-up after 1 year). We used the baseline data to conduct this sub analysis focused only on mental health.

2.2 Setting and data collection

The study was conducted in three neighbourhoods located in the South-East sector of the capital city of Santiago, Chile: La Pintana, La Granja, and San Ramón, between January 2021 and October 2022. These three neighbourhoods are classified as highly socioeconomically vulnerable, with La Pintana being located at the top of the ranking by social priority index among neighbourhoods of the Metropolitan Region of Santiago, with a score of 88.03, compared to 3.84 for the least socioeconomically vulnerable neighbourhood (40). San Ramón ranked fourth with a score of 82.75 and La Granja ranked thirteenth with a score of 73.89. The neighbourhoods are contiguous and have a total of 391,995 inhabitants (4.6% of the Metropolitan Region) (41). With regards to the international migrant population in the area of interest, data from the Department of Migration of Chile indicates that a little over 1 million migrants live in Santiago (56.8% of the total population of migrants in Chile), and the evidence available estimates that less than 10.000 international migrants live in each of the neighbourhood of interest (42–44). However, the area has welcomed an increasing number of international migrants in the past 10 years. These three neighbourhoods were selected for the study due to their socioeconomic characteristics and the selection was facilitated by an existing partnership with the local public hospital, who expressed interest in the study and the unique data that would be collected.

The data collection instrument was designed based on questions from the 2017 version of the National Socioeconomic Characterisation Survey (*Encuesta de Caracterización Socioeconómica Nacional*, CASEN), the 2017 National Health Survey (*Encuesta Nacional de Salud*, ENS) and other scales validated for migrant populations (45–48). The survey consisted of questions on socio-demographic characteristics, health, use and perception of the healthcare system, income, out-of-pocket expenses, and psychosocial aspects for both populations. In addition, questions on the migration process were asked to the international population.

The survey was about 50-min long and administered through a telephone call or on-site interview in Spanish or Haitian Creole with a trained research assistant, in order to ensure accuracy of data and inclusion of participants with a low level of digital and health literacy. The data is safely stored on the RedCap platform to ensure anonymity and confidentiality.

2.3 Participants

The selection criteria for participants were the following: (i) be over 18 years old, (ii) reside in La Pintana, La Granja, or San Ramón (iii) speak Spanish or Creole.

The survey was conducted during the COVID-19 pandemic, which involved two major challenges for participant recruitment: mobility restrictions preventing on-site recruitment and surveying and the need to protect the health of the team and the participants. Furthermore, the international migrant population can be considered "hard-to-reach," as it can be challenging to involve migrants in health research due to exclusion, marginalisation, and fear of deportation (49). The study included any type of migrant, regardless of their migratory status, based on self-report. In the case of Chilean population considered for this study, barriers to participation were also observed, such as mistrust due to experiences of being scammed being fairly common and lack of time to respond.

Considering these barriers, the research team had to implement a series of remote and onsite (once permitted) recruitment strategies: (1) an invitation to participate in the survey was shared through the social media accounts of municipal institutions, (2) onsite recruitment was conducted in vaccination centres, primary healthcare centres, the waiting room of a hospital, and municipal community centres, (3) onsite recruitment was also conducted in community soup kitchens, street markets and around metro stations and supermarkets. Furthermore, in addition to these strategies aimed at both population groups, the following strategies were used to recruit international migrants: (1) recruiters participated in events organised by migrant-led or pro-migrant organisations, (2) the social worker of the local hospital shared the invitation among her migrant patients. Finally, the snowball technique was implemented throughout the study with both populations.

2.4 Variables

The dependent variables were the following:

Stress: This variable was constructed from the question "how often have you felt stressed (irritable, full of anxiety or unable to sleep) during the last year due to situations at home or at work?," with the following response options: 0 Never felt stress, 1 Sometimes felt stressed at home or at work, 2 Several times felt stressed at home or at work and 3 Permanently felt stressed at home or at work. We recoded as a dichotomous variable: "Stressed," for those who responded feeling stressed several times or permanently, and "Not stressed" for those who reported never or sometimes feeling stressed.

Mood disorders: The variable was constructed from the question "Do you have any of the following chronic illnesses (have you ever been diagnosed by a doctor or taken medication for any of these conditions?), specifically mood disorders (depression, anxiety or other)?," with the

response options Yes, No. The question is focused on self-report based on having been diagnosed and/or treated for a mood disorder, including but not limited to the ones mentioned in the question.

The independent variables were the following:

Demographic characteristics: sex (man, woman), age (continuous and by age group 13–18 years old, 19–29 years old, 30–59 years old, 60 years old and over), and marital status (single married or co-habiting partner, divorced or separated, widowed).

Socio-economic characteristics: educational level (none or below basic, completed basic education (with or without incomplete secondary education), completed secondary education (with or without incomplete higher education), completed higher education), employment (employed, unemployed, housewife, student or infant), monthly net income (0$, 0$–250.000$, 250.000$–500.000$, 500.000$–1.000.000$, 1.000.000$ or more), and cash benefits during the COVID-19 pandemic (yes, no).

Housing and surroundings: tenure of the housing (owner, renter, rented room, other), littering or infestation in the surroundings (yes, no), overcrowding (with, without), visual or acoustic pollution (yes, no), safety (safe, unsafe), and proximity to essential services like pharmacies or supermarkets (yes, no), proximity to a healthcare centre (yes, no).

Access to healthcare: health insurance (none, public, private, other or military system, does not know) and barriers to access (yes, no).

Health status and healthy lifestyles: alcohol intake (does not drink, drinks less than an average of 2 units a day, drinks more than an average of 2 units a day), physical activity (yes, no), self-reported obesity (yes, no), morbidity (none, treated, untreated), family history of mood disorders (yes, no).

Psychosocial factors: perceived importance ("No one cares about what happens to me"- strongly agrees, moderately agrees, moderately disagrees, strongly disagrees) and trust ("It is safer to trust no one"—strongly agrees, moderately agrees, moderately disagrees, strongly disagrees), perceived discrimination (yes, no), having a close friend or group.

Migration (only for international migrants): country of origin (Peru, Colombia, Venezuela, Haiti, other), time spent in Chile (number of years), refugee or asylum seeker status (yes, no), perceived number of international migrants in their neighbourhood (0–100), importance of seeking out and maintaining relationships with people from the country of origin (0–100), importance of seeking out and maintaining relationships with people from the country of arrival (0–100), the culture of the country of origin has to be emphasised and contact with the local culture limited (yes, no), feeling that the locals are tolerant towards migrants (yes, no), experiences of abuse as a migrant (yes, no).

2.5 Study size

A total of 1,656 international migrants and 1,664 locals were included in this analysis.

Considering that the target population was hard-to-reach, as it was restrained to Chileans and international migrants living in three specific boroughs of the Metropolitan Region of Santiago that concentrate some of the highest levels of multidimensional poverty in the country and a very small proportion of the migrant population in the Metropolitan Region of Santiago, sampling was non probabilistic and non-representative. Given that this is the first study of its kind in the country, the sample size was estimated for categorical variables with maximum uncertainty, an expected proportion of 50%, a confidence level of 95% and an accuracy of 3%, which yielded a minimum number of 1,067 people (epidat 4.1). In accordance with feasibility, the baseline sample size of 1,650 people for each population group was considered adequate and feasible.

2.6 Statistical methods

For the total number of respondents, the distribution of each of the variables, alone and according to perceived stress, mood disorders and migration, was described. Additionally, the association between the dependent and independent variables alone was analysed using the Chi-square test (or Fisher's exact test, as appropriate) in conjunction with Cramer's V to analyse the magnitude of the association.

To handle missing data in the models, multiple imputation was performed using the mice package in *R. prior* to imputation, the structure of the data was reviewed, and categorical variables were checked to ensure that they were coded as factors, and the nature of missing data was verified. Multiple imputation was carried out with 5 imputed sets (m = 5), using specific methods according to the type of variable: logistic regression for binary variables (logreg), polynomial regression for categorical variables with more than two levels (polyreg), and omitting imputation for the dependent variable perceived stress and mood disorders to avoid introducing bias.

The quality and appropriateness of multiple imputation was assessed by visual diagnosis of convergence of imputation chains through traceplots, comparison of observed and imputed distributions, assessment of the plausibility of imputed values according to the context and logic of the variables, and sensitivity analysis to compare results with and without imputation.

Once the imputation was completed, a generalised logistic regression model (GLM) with logit link was fitted to assess the association between stress (dichotomous) and the independent variables. The models were fitted on each imputed set and the results were combined using Rubin's rules to obtain estimates and adjusted standard errors. Additionally, selecting an imputation, a GLM model with logistic linkage was fitted and a stepwise step was performed to identify the variables to be included in the model, minimising the AIC (Akaike Information Criterion), which rewards good fit by penalising model complexity, allowing for dimensionality reduction and identification of variables of greater importance for the explanation of the dependent variables of interest (stress and mood disorders in separate models). Once the variables were identified, models were fitted using these sets of variables on each imputed data set and the results were combined using Rubin's rules. For all models, goodness-of-fit and VIF between the different variables were analysed.

All the above was done both for the total sample and separately for the migrant population only. In the case of the migrant population, GLM models with logit link were additionally fitted, with migration dependent variables.

2.7 Ethics statement

The project was approved by the Ethics Committee of the Faculty of Medicine of the Universidad del Desarrollo, as well as the Ethics Committee of the *Servicio de Salud Metropolitano Sur-Oriente.*

The privacy and anonymity of all participants was safeguarded. Participants filled an informed consent form available online through Alchemer before taking part in the survey. Additionally, they could withdraw from the study at any point and refuse to respond any of the questions. Each participant was given a unique ID code linking back to personal data for follow-up purposes and available to the lead researcher and research coordinator only. No individual can be identified from the anonymised dataset.

Each participant was offered approximately USD 5.00 as well as a PDF document was information on access to healthcare, specific services in their borough of residence and support networks upon completion of the questionnaire.

3 Results

3.1 Sample description

The sample analysed included 3,320 participants, of whom 49.9% (n = 1,656) were international migrants and 50.1% (n = 1,664) local (born in Chile). The majority of participants were female (72.2%), 30–59 years old (62.6%) and over 55.7% identified themselves as single. The most frequent educational level was completed secondary school (with or without higher education; 39.6%). In terms of employment status, 52% were employed and 24.3% worked as housewives, while 35.1% reported a monthly income of between $250,000 and $500,000 and 29.4% had no declared income. Furthermore, 56.2% reported receiving cash benefits during the SARS-CoV2 pandemic. In relation to housing, 44.5% lived in rented accommodation and 15.6% experienced overcrowding. Although access to nearby healthcare centres (91.6%) and basic services such as pharmacies or supermarkets (98.2%) were most frequently reported, environmental issues were also reported: 62.9% mentioned littering or infestation, and 61.4% mentioned visual or noise pollution in the surrounding area. Despite this, 78.8% considered their surroundings to be safe.

The international migrant participants were mainly Venezuelan (48.2%), most had been living between 1 and 5 years in the country (56.3%), were not refugees (91.5%), had a permanent resident status (27.4%) or had an irregular migratory status (26.2%), and did not travel on their own (54.2%). The majority reported not having given up beliefs and customs (58.0%), considered the locals in Chile to be tolerant (52.2%) and reported not having experienced abuse related to being a migrant (61.2%).

Regarding health, access to healthcare and wellbeing, 49.1% reported experiencing stress, 15.5% reported having a mood disorder and 16.3% reported consuming more than two alcoholic drinks per day. Only 26% were physically active on a regular basis, and 11.6% reported obesity. 20.6% reported having an untreated condition. Additionally, 42.9% faced barriers to accessing the healthcare system, while 12.6% were not affiliated to insurance scheme, showing possible conditions of vulnerability when accessing healthcare services. Regarding psychosocial variables, 35.9% agreed with feeling being important to others, although 30.9% expressed total disagreement with this statement. 57.2% trusted the people around them, and 32.5% reported having experienced discrimination. Finally, 90.9% reported having support networks equivalent to a close group of family and/or friends.

For further detail, please see Supplementary material 1.

3.2 Stress and mood disorders among locals and international migrants

Among the respondents self-reporting stress, the stepwise model showed that being female was associated with a higher prevalence of stress (PRR: 1.682; 95%CI: 1.397–2.026), while being married (PRR: 0.704; 95%CI: 0.583–0.848) or cohabiting (PRR: 0.627; 95%CI: 0.477–0.825) was associated with lower prevalence. A lower prevalence of stress was also observed in people with secondary (PRR: 0.695; 95%CI: 0.570–0.847) or higher education (PRR: 0.487; 95%CI: 0.352–0.674) and in those who were physically active (PRR: 0.808; 95%CI: 0.679–0.961) or had a close friend or support group (PRR: 0.659; 95%CI: 0.505–0.859).

In contrast, stress was higher in students or people under 18 (PRR: 1.461; 95%CI: 1.010–2.114), people living with littering or infestation in their surroundings (PRR: 1.373; 95%CI: 1.154–1.632) or with visual or acoustic pollution (PRR: 1.398; 95%CI: 1.177–1.660), those affiliated to the public (PRR: 1.360; 95%CI: 1.058–1.749) or private (PRR: 1.626; 95%CI: 1.032–2.561) healthcare system, who experienced barriers to access healthcare (PRR: 1.825; 95%CI: 1.556–2.139; $p < 0.001$), who consumed more than two alcoholic drinks per day (PRR: 1.260; 95%CI: 1.020–1.558), were under treatment for morbidities (PRR: 1.251; 95%CI: 1.010–1.549), had a family history of mood disorders (PRR: 1.814; 95%CI: 1.511–2.179) or had experienced discrimination (PRR: 1.554; 95%CI: 1.319–1.831; Table 1).

For mood disorders, the stepwise model showed that being female was associated with a higher prevalence of mood disorders (PRR: 1.996; 95%CI: 1.474–2.701). In contrast, a higher net income was associated with lower prevalence, with the $250,000 to $500,000 category being significant (PRR: 0.625; 95%CI: 0.469–0.833). Living in Type 3 housing (e.g., block flats or similar) was also associated with lower prevalence (PRR: 0.513; 95%CI: 0.307–0.856), as was living in overcrowded conditions (PRR: 0.674; 95%CI: 0.458–0.990), which may reflect contextual or social protective factors. Conversely, having faced barriers to access healthcare (PRR: 1.583; 95%CI: 1.251–2.003), self-reporting obesity (PRR: 2.535; 95%CI: 1.927–3.334), having treated (PRR: 3.421; 95%CI: 2.562–4.570) or untreated morbidities (PRR: 5.726; 95%CI: 4.375–7.493; $p < 0.001$), having family history of mood disorders (PRR: 3.880; 95%CI: 3.084–4.882) and having experienced discrimination (PRR: 1.588; 95%CI: 1.250–2.018), were associated with a higher prevalence of mood disorders (Table 2).

Particularly with regards to migration, the results show significant differences between migrants and nationals in terms of perceived stress and mood disorders. 61.1% of nationals reported stress, compared to 37.4% of migrants ($p < 0.001$; Cramér's V = 0.237), indicating a moderate association. Similarly, nationals reported a higher proportion of mood disorders: 24.4% versus 7% in migrants ($\chi^2 = 187.8$; $p < 0.001$). This is consistent with the PRRs obtained, and these differences were maintained even after adjusting for demographic, socioeconomic, housing, and environmental variables, access to health care, well-being and psychosocial factors (See Supplementary material 2).

3.3 Stress and mood disorders among international migrants

In the specific case of the migrant population, the stepwise model for perceived stress identified multiple significantly associated factors. Being female was associated with a higher prevalence of stress (PRR:

10.3389/fpubh.2025.1582628

TABLE 1 Stepwise GLM for stress, adjusting for demographic, socioeconomic, healthcare access, health status and psychosocial variables.

Stepwise model for stress			
Term	PRR	CI95%	*p* value
Sex: Woman (ref. Man)	1.682	(1.397 to 2.026)	0.000**
Age 19–29 (13–18)	0.728	(0.352 to 1.506)	0.392
Age 30–59	0.562	(0.270 to 1.170)	0.123
Age 60+	0.540	(0.242 to 1.206)	0.133
Marital status: Married (ref. Single)	0.704	(0.583 to 0.848)	0.000**
Marital status: Cohabiting partner	0.627	(0.477 to 0.825)	0.001**
Marital status: Divorced or separated	1.032	(0.745 to 1.429)	0.851
Marital status: Widowed	0.595	(0.328 to 1.082)	0.089
Educational level: Basic (ref. None)	0.847	(0.684 to 1.048)	0.125
Educational level: Secondary	0.695	(0.570 to 0.847)	0.000**
Educational level: Higher	0.487	(0.352 to 0.674)	0.000**
Employment: Unemployed (ref. Employed)	0.920	(0.744 to 1.138)	0.441
Employment: Housewife	0.881	(0.721 to 1.078)	0.218
Employment: Student or infant	1.461	(1.010 to 2.114)	0.044*
Overcrowding: Yes (ref. No)	0.846	(0.683 to 1.049)	0.127
Littering or infestation in the surroundings: Yes (ref. No)	1.373	(1.154 to 1.632)	0.000**
Visual or acoustic pollution: Yes (ref. No)	1.398	(1.177 to 1.660)	0.000**
Nearby healthcare centre: Yes (ref. No)	0.759	(0.564 to 1.021)	0.068
Healthcare system: Public (ref. None)	1.360	(1.058 to 1.749)	0.016*
Healthcare system: Private	1.626	(1.032 to 2.561)	0.036*
Healthcare system: Other or military	1.019	(0.299 to 3.471)	0.976
Healthcare system: Does not know	1.117	(0.773 to 1.613)	0.555
Barriers to access healthcare: Yes (ref. No)	1.825	(1.556 to 2.139)	0.000**
Barriers to access healthcare: Has never tried	1.085	(0.772 to 1.525)	0.637
Alcohol: Drinks less than an average of 2 units a day (ref. Does not drink)	0.937	(0.769 to 1.141)	0.515
Alcohol: Drinks more than an average of 2 units a day	1.260	(1.020 to 1.558)	0.032*
Physical activity: Yes (ref. No)	0.808	(0.679 to 0.961)	0.016*
Morbidity: Yes, treated (ref. None)	1.251	(1.010 to 1.549)	0.040*
Morbidity: Yes, untreated	1.032	(0.845 to 1.260)	0.760
Family history of mood disorder: Yes (ref. No)	1.814	(1.511 to 2.179)	0.000**
Discrimination: Yes (ref. No)	1.554	(1.319 to 1.831)	0.000**
Having a close friend or support group: Yes (ref. No)	0.659	(0.505 to 0.859)	0.002**
Intercept	0.922	(0.386 to 2.201)	0.855

Model for stress: VIF < 1.62 for all variables; AIC: 4118.4; AUC: 0.7224; Proportion of deviance explained: 0.1154; G^2 statistic (deviance): 528.616; McFadden's pseudo-R^2: 0.1154 R^2ML (maximum likelihood): 0.1478; R^2CU (Cragg-Uhler or Nagelkerke): 0.1971. *p value < 0.05; **p value < 0.01.

1.437; 95%CI: 1.092–1.890). Being married (PRR: 0.761; 95%CI: 0.586–0.987; $p = 0.040$) or cohabiting (PRR: 0.681; 95%CI: 0.499–0.930) was associated with lower stress compared to being single. Regarding living conditions, living with littering or infestation in the surroundings was associated with higher stress (PRR: 1.296; 95%CI: 1.009–1.664), while having a healthcare centre nearby was associated with lower stress (PRR: 0.630; 95%CI: 0.410–0.969). Being affiliated to the public healthcare system was associated with greater stress (PRR: 1.477; 95%CI: 1.084–2.011), as was experiencing barriers to access healthcare (PRR: 2.022; 95%CI: 1.587–2.575). Being physically active was associated with less stress (PRR: 0.640; 95%CI: 0.492–0.832). Significant associations were also observed with family history of mood disorders (PRR: 2.332; 95%CI: 1.689–3.222) and discrimination (PRR: 1.891; 95%CI: 1.502–2.381).

Regarding the model for mood disorders, those aged 19–29 (PRR: 0.083; 95%CI: 0.015–0.446), 30–59 (PRR: 0.142; 95%CI: 0.028–0.734) and 60 years and older (PRR: 0.071; 95%CI: 0.010–0.528; $p = 0.010$) had a lower prevalence compared to adolescents aged 13–18 years. A

TABLE 2 Stepwise GLM for mood disorders, adjusting for demographic, socioeconomic, healthcare access, health status and psychosocial variables.

Stepwise model for mood disorders			
Term	PRR	CI95%	*p*-value
Sex: Woman (ref. Man)	1.996	(1.474 to 2.701)	0.000**
Net income [$0–$250000] (ref. $0)	0.788	(0.564 to 1.103)	0.164
Net income [$250.000–$500000]	0.625	(0.469 to 0.833)	0.001**
Net income [$500,000–$1000000]	0.712	(0.471 to 1.076)	0.107
Net income above $1,000,000	0.818	(0.334 to 2.003)	0.660
Housing type 2 (ref. Housing type 1)	0.802	(0.617 to 1.042)	0.099
Housing type 3	0.513	(0.307 to 0.856)	0.011*
Housing type 4	0.855	(0.608 to 1.202)	0.366
Overcrowding: Yes (ref. No)	0.674	(0.458 to 0.99)	0.044*
Safety: Yes (ref. No)	1.280	(0.925 to 1.77)	0.136
Barriers to access healthcare: Yes (ref. No)	1.583	(1.251 to 2.003)	0.000**
Barriers to access healthcare: Has never tried	0.525	(0.242 to 1.137)	0.102
Self-reported obesity: Yes (ref. No)	2.535	(1.927 to 3.334)	0.000**
Morbidity: Yes, treated (ref. None)	3.421	(2.562 to 4.57)	0.000**
Morbidity: Yes, untreated	5.726	(4.375 to 7.493)	0.000**
Family history of mood disorder: Yes (ref. No)	3.880	(3.084 to 4.882)	0.000**
Discrimination: Yes (ref. No)	1.588	(1.25 to 2.018)	0.000**
Having a close friend or support group: Yes (ref. No)	0.729	(0.502 to 1.06)	0.098
Intercept	0.027	(0.014 to 0.051)	0.000**

Model for mood disorders: VIF < 1.20 for all variables; AIC: 2095.1; AUC: 0.8545; Proportion of deviance explained: 0.2802; G^2 statistic (deviance): 800.848; McFadden's pseudo-R^2: 0.280; R^2ML (maximum likelihood): 0.2161; R^2CU (Cragg-Uhler or Nagelkerke): 0.3722. *p value < 0.05; **p value < 0.01.

higher income was associated with a lower prevalence of mood disorders: for example, those earning between $250,000 and $500,000 (PRR: 0.479; 95%CI: 0.268–0.855) compared with those earning between $500,000 and $1,000,000 (PRR: 0.203; 95%CI: 0.061–0.668). Reporting barriers to access healthcare (PRR: 2.148; 95%CI: 1,337-3,450), obesity (PRR: 2.586; 95%CI: 1.288–5.193), treated (PRR: 3.648; 95%CI: 1.909–6.971) or untreated (PRR: 8.891; 95%CI: 5.211–15.172) morbidities, having a family history of mood disorders (PRR: 6.545; 95%CI: 3.914–10.947), and having experienced discrimination (PRR: 1.642; 95%CI: 1.914–10.947) were factors associated with a higher prevalence of mood disorders (Table 3).

Considering only variables related to migration, the stepwise model for perceived stress in the migrant population identified several significantly associated variables. A higher perceived number of migrants in the neighbourhood was associated with a slight but significant increase in stress (PRR = 1.006; 95%CI: 1.002–1.009). Regarding the attitude towards the statement "The culture of the country of origin has to be emphasised and contact with the local culture limited" (reference: 'Strongly disagree'), those who said they "disagreed" were less likely to report stress (PRR = 0.666; 95%CI: 0.456–0.971), as were those who "agreed" (PRR = 0.581; 95%CI: 0.398–0.848). Feeling that the local population is tolerant of migrants was also associated with a lower likelihood of stress (PRR = 0.768; 95%CI: 0.616–0.958). In contrast, having experienced abuse due to being a migrant was associated with a significantly increased risk of stress, doubling the odds (PRR = 2.087; 95%CI: 1.684–2.586).

For mood disorders, two statistically significant associations were observed. First, length of residence in Chile was positively associated with mood disorders (PRR = 1.048; 95%CI: 1.003–1.095; $p = 0.036$), suggesting a progressive increase in risk as length of stay increases. In addition, having experienced abuse due being a migrant was associated with an increased risk, more than twice as high compared to those who had not (PRR = 2.161; 95%CI: 1.463–3.193; $p < 0.001$). Although differences by country of origin were not statistically significant, Haitian migrants tended to have a lower risk (PRR = 0.417; 95%CI: 0.173–1.003; $p = 0.051$). In both cases there was no significant collinearity between the variables (Table 4).

4 Discussion

This study aimed at comparing mental health outcomes between international migrants and locals, as well as examining differences among international migrants, in three neighbourhoods of the Metropolitan Region of Santiago, Chile. The analysis was conducted with data collected through a community-based survey during 2021–2022, as part of a larger project focusing on migration and health in Chile. Considering the data available and the social determinants of health approach, mental health was conceptualised as reported stress and diagnosis of mood disorders and independent variables related to demographic and socioeconomic characteristics, living conditions, access to healthcare, health status and healthy lifestyles, psychosocial factors, and, for migrants, factors related to the migratory process.

Regarding the comparison between international migrants and locals, we consistently found that being a migrant was negatively associated with stress and mood disorders, which is aligned with

10.3389/fpubh.2025.1582628

TABLE 3 Stepwise GLM for stress and mood disorders among international migrants, adjusting for demographic, socioeconomic, healthcare access, health status and psychosocial variables.

Term	PRR	CI95%	*p*-value
Stepwise model for stress			
Sex: Woman (ref. Man)	1.437	(1.092 to 1.890)	0.010*
Marital status: Married (ref. Single)	0.761	(0.586 to 0.987)	0.040*
Marital status: Cohabiting partner	0.681	(0.499 to 0.930)	0.016*
Marital status: Divorced or separated	1.122	(0.588 to 2.142)	0.727
Marital status: Widowed	0.278	(0.059 to 1.315)	0.106
Educational level: Basic (ref. None)	2.009	(0.904 to 4.463)	0.087
Educational level: Secondary	1.715	(0.791 to 3.718)	0.171
Educational level: Higher	1.276	(0.567 to 2.875)	0.556
Net income [$0–$250000] (ref. $0)	0.817	(0.560 to 1.191)	0.290
Net income [$250.000–$500000]	0.977	(0.749 to 1.275)	0.864
Net income [$500,000–$1000000]	1.016	(0.626 to 1.649)	0.949
Net income above $1,000,000	0.173	(0.014 to 2.142)	0.164
Littering or infestation in the surroundings: Yes (ref. No)	1.296	(1.009 to 1.664)	0.042*
Visual or acoustic pollution: Yes (ref. No)	1.262	(0.986 to 1.616)	0.065
Nearby healthcare centre: Yes (ref. No)	0.630	(0.410 to 0.969)	0.036*
Healthcare system: Public (ref. None)	1.477	(1.084 to 2.011)	0.013*
Healthcare system: Private	1.973	(0.758 to 5.139)	0.164
Healthcare system: Other or military	0.986	(0.047 to 20.648)	0.993
Healthcare system: Does not know	0.910	(0.546 to 1.516)	0.717
Barriers to access healthcare: Yes (ref. No)	2.022	(1.587 to 2.575)	0.000**
Barriers to access healthcare: Has never tried	1.281	(0.876 to 1.873)	0.201
Alcohol: Drinks less than an average of 2 units a day (ref. Does not drink)	0.805	(0.589 to 1.102)	0.175
Alcohol: Drinks more than an average of 2 units a day	1.359	(0.985 to 1.875)	0.062
Physical activity: Yes (ref. No)	0.640	(0.492 to 0.832)	0.001**
Family history of mood disorder: Yes (ref. No)	2.332	(1.689 to 3.222)	0.000**
Discrimination: Yes (ref. No)	1.891	(1.502 to 2.381)	0.000**
Having a close friend or support group: Yes (ref. No)	0.739	(0.528 to 1.035)	0.078
Intercept	0.238	(0.088 to 0.638)	0.004**
Stepwise model for mood disorders			
Age 19–29 (ref. 13–18)	0.083	(0.015 to 0.446)	0.004**
Age 30–59	0.142	(0.028 to 0.734)	0.020*
Age 60+	0.071	(0.010 to 0.528)	0.010*
Net income [$0–$250000] (ref. $0)	0.934	(0.485 to 1.801)	0.838
Net income [$250.000–$500000]	0.479	(0.268 to 0.855)	0.013*
Net income [$500,000–$1000000]	0.203	(0.061 to 0.668)	0.009**
Net income above $1,000,000	0.579	(0.056 to 5.960)	0.646
Overcrowding: Yes (ref. No)	0.576	(0.323 to 1.029)	0.062
Visual or acoustic pollution: Yes (ref. No)	1.548	(0.978 to 2.450)	0.062
Supermarket or pharmacy nearby: Yes (ref. No)	0.323	(0.093 to 1.124)	0.076
Barriers to access healthcare: Yes (ref. No)	2.148	(1.337 to 3.450)	0.002**
Barriers to access healthcare: Has never tried	0.748	(0.301 to 1.858)	0.532
Self-reported obesity: Yes (ref. No)	2.586	(1.288 to 5.193)	0.008**
Morbidity: Yes, treated (ref. None)	3.648	(1.909 to 6.971)	0.000**

(Continued)

TABLE 3 (Continued)

Term	PRR	CI95%	*p*-value
Morbidity: Yes, untreated	8.891	(5.211 to 15.172)	0.000**
Family history of mood disorder: Yes (ref. No)	6.545	(3.914 to 10.947)	0.000**
Discrimination: Yes (ref. No)	1.642	(1.035 to 2.604)	0.035*
Intercept	0.337	(0.049 to 2.325)	0.269

Model for stress: VIF < 1.37 for all variables; AIC: 2030.8; AUC: 0.7026; Proportion of deviance explained: 0.0943; G^2 statistic (deviance): 205.610; McFadden's pseudo-R^2: 0.0943 R^2ML (maximum likelihood): 0.1172; R^2CU (Cragg-Uhler or Nagelkerke): 0.1598. Model for mood disorders: VIF < 1.21 for all variables; AIC: 610.61; AUC: 0.8827; Proportion of deviance explained: 0.3106; G^2 statistic (deviance): 258.938; McFadden's pseudo-R^2: 0.311; R^2ML (maximum likelihood): 0.1458; R^2CU (Cragg-Uhler or Nagelkerke): 0.3664. *p value < 0.05; **p value < 0.01.

TABLE 4 Stepwise GLM for stress and mood disorders among international migrants, adjusting for migration's variables.

Term	PRR	CI95%	*p*-value
Stepwise model for stress			
Perceived amount of international migrants in their neighbourhood	1.006	(1.002 to 1.009)	0.001**
The culture of the country of origin has to be emphasised and contact with the local culture limited (ref. Strongly disagree)			
Disagree	0.666	(0.456 to 0.971)	0.035*
Neutral	0.801	(0.611 to 1.049)	0.107
Agree	0.581	(0.398 to 0.848)	0.005**
Strongly agree	0.788	(0.497 to 1.250)	0.312
Feels that the locals are tolerant towards migrants (ref. No)			
Yes	0.768	(0.616 to 0.958)	0.019*
Has experienced abuse for being a migrant (ref. No)			
Yes	2.087	(1.684 to 2.586)	0.000**
Intercept	0.440	(0.331 to 0.586)	0.000**
Stepwise model for mood disorders			
Country of origin (ref. Peru)			
Colombia	1.095447	(0.520 to 2.308)	0.810
Venezuela	1.0821981	(0.567 to 2.067)	0.811
Haiti	0.4168935	(0.173 to 1.003)	0.051
Other	1.344578	(0.688 to 2.629)	0.387
Time spent in Chile (years)	1.0478481	(1.003 to 1.095)	0.036*
Has experienced abuse for being a migrant (ref. No)			
Yes	2.1614391	(1.463 to 3.193)	0.000**
Intercept	0.0432037	(0.022 to 0.084)	0.000**

Model for stress: VIF < 1.05 for all variables; AIC: 2117.2; AUC: 0.627; Proportion of deviance explained: 0.03633; G^2 statistic (deviance): 79.22; McFadden's pseudo-R^2: 0.036; R^2ML (maximum likelihood): 0.047; R^2CU (Cragg-Uhler or Nagelkerke): 0.064. Model for mood disorders: VIF < 1.59 for all variables; AIC: 816.28; AUC: 0.6524; Proportion of deviance explained: 0.0375; G^2 statistic (deviance): 31.26; McFadden's pseudo-R^2: 0.0375; R^2ML (maximum likelihood): 0.0188; R^2CU (Cragg-Uhler or Nagelkerke): 0.047. *p-value < 0.05; **p-value < 0.01.

previous quantitative studies comparing the mental health of both populations in Chile (32–34) and suggesting a healthy immigrant effect. However, it is important to take three elements into account. The first one is that the Chilean population reported high rates of stress and mood disorders. With regards to stress, the only recent study conducted in Chile, based on a non-representative survey with a sample of 500 people, indicated that 73% of the respondents reported being stressed to the point of it affecting their daily lives and 54% to the point of having to stop working for a while (50). Regarding mood disorders, the latest National Health survey conducted in 2016–2017 found that 15.8% of the population had depressive symptomatology and that the prevalence of depression was 6% (51). This, together with the data from PAHO presented in the introduction (25), indicates that mental health issues are a top health concern for the Chilean population, potentially overshadowing the mental health issues experienced by the international migrant population in the country.

The second point is that our results are based on self-report rather than diagnosis, which could introduce both information and recall biases due to a variety of factors such as health literacy or diverse interpretations of mental health issues in a context of cultural diversity, leading participants to either underestimate or overestimate their levels of stress or mental health conditions, affecting the accuracy of the estimates. However, self-reports have been found to be correlated with posteriorly diagnosed mental health issues (52). Further studies including variables such as health literacy, as well as

validated diagnosis tools may be relevant to further explore the healthy immigrant effect among international migrants in Chile.

The third point is that, our analysis found that length of residence in Chile was positively associated with reporting mood disorders, suggesting that the healthy immigrant effect declines over time, which is consistent with the existing literature on the topic (3, 12, 17). This may be due, on the one hand, to improved access to healthcare and diagnosis as barriers related to migratory status, information, and cross-cultural communication may fade (53), or, on the other hand, as an actual decline in mental health over time while being exposed to similar risk factors as the Chilean population. Further longitudinal studies taking into account these factors may be relevant in order to determine the risk factors over time.

While the international migrants surveyed in this study generally presented better health outcomes than their Chilean counterpart, it is still relevant to examine their risk factors for stress and mood disorders, especially the ones related to migration. Concerning stress, perceiving a high number of migrants in the neighbourhood was a statistically significant risk factor which may be counter-intuitive, however, it may be a proxy for territorial exclusion and residential segregation, where migrant populations are concentrated, over time, in more socioeconomically deprived areas (54, 55). This may be especially the case as this study was conducted in three neighbourhoods that are classified as highly vulnerable and that have seen an increased number of international migrants in recent years.

Another noteworthy risk factor for both stress and mood disorders was having experienced abuse as a migrant, which is consistent with other studies conducted in Chile, the United States, Norway, and Spain (56–59). Furthermore, perceiving that the locals are tolerant towards international migrants was a protective factor for stress, indicating the importance of considering the wider social dynamics at play in the everyday life of international migrants and their impact on mental health. This is especially important in a climate of growing hostility towards migrant populations worldwide, and in particular in Chile. While migration was not a politicised topic until the mid 2010s, anti-immigrant sentiment has been growing at the national level, fuelled by the media and discriminatory political discourses in the past few years (60, 61).

Our results are relevant for healthcare practitioners, as factors related to migration are key to understanding potential mental health challenges among international migrant patients, from an intercultural point of view. Understanding the risk factors specific to international migrants allows for mental healthcare that is specific and responsive to their needs, contributing to improving their mental health outcomes. Furthermore, understanding protective factors is also key for mental health promotion, as is recognising the resources and strategies international migrants have to support their mental health. More widely, considering that discrimination and having experienced abuse as a migrant were risk factors for stress and mood disorders, while perceiving that the locals are tolerant was a protective factor for stress, wider action must be taken regarding the xenophobia experienced by international migrants in Chile. Policies aiming at improving the perception and attitudes of local populations towards immigrants must be implemented, especially targeting school-age children and areas with a high density of migrant population.

This study has some limitations. The data was collected during the pandemic in highly challenging conditions with "hard-to-reach" populations, limiting the possibility of a representative sample. Additionally, this limited our ability to reach populations facing a higher degree of social vulnerability and barriers to healthcare and essential services. The non-probabilistic sampling, the presence of non-response, and the restriction to three municipalities in the country may limit the external validity of the findings, meaning that the results cannot be generalised to the entire migrant or local population in Chile. Additionally, the questions included in the survey focused mainly on experiences in the country of arrival, leaving aside questions regarding pre-migration stress or other specific questions linked to family (or other issues) in the home country. The cross-sectional nature of the study prevents the establishment of causal relationships, and some of the selected variables may have bidirectional associations with stress and mood disorders. Furthermore, regarding the design of the study, although performing a mixed-methods study in order to complement the quantitative data presented in this article may have been relevant and is increasingly recognised as useful in the field of epidemiology (62), this study contributes to the existing evidence with a unique set of community-based data collected in three highly vulnerable neighbourhoods of Santiago, Chile with both international migrants and Chileans. There are existing qualitative studies on the mental health of international migrants and refugees in Chile (36, 37, 39) and further studies may explore the topic through mixed methods. In all, this data gives us insights into understudied and underserved populations, potentially contributing to strategies aiming at improving their mental health outcomes.

This study adds to the existing evidence on the healthy immigrant effect and confirms that there is a healthy immigrant effect for mental health in Chile. However, considering that international migrants in Chile still face mental issues, albeit in a lesser proportion than their local counterparts, and that results highlight both risk and protective factors linked to migration, we may ask the question of what matters most for practice and policymaking: that international migrants have better mental health outcomes than locals, or that their mental health is influenced by mechanisms related to migratory processes?

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by Comité Ético Científico Facultad de Medicina Clínica Alemana Universidad del Desarrollo. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

AB: Conceptualization, Investigation, Project administration, Writing – original draft. MO: Conceptualization, Data curation, Formal analysis, Methodology, Visualization, Writing – original draft. BC: Conceptualization, Funding acquisition, Supervision, Validation, Writing – review & editing. PM: Conceptualization, Investigation, Writing – review & editing. AO: Conceptualization, Investigation, Writing – review & editing.

Funding

The author(s) declare that financial support was received for the research and/or publication of this article. Fondecyt Regular 1201461, ANID, Chile.

Acknowledgments

The authors thank all the participants and the hard-working team of research assistants who made this study possible.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declare that no Gen AI was used in the creation of this manuscript.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpubh.2025.1582628/full#supplementary-material

References

1. McAuliffe FM, OuchoBrien LA. World migration report 2024. Geneva: International Organization for Migration (IOM) (2024).

2. World Health Organization. Mental health of refugees and migrants: Risk and protective factors and access to care. Geneva: WHO (2023).

3. Elshahat S, Moffat T, Newbold KB. Understanding the healthy immigrant effect in the context of mental health challenges: a systematic critical review. *J Immigr Minor Health*. (2021) 24:1564–79. doi: 10.1007/s10903-021-01313-5

4. Islam F. Examining the" healthy immigrant effect" for mental health in Canada. *Univ Tor Med J*. (2013) 90:169–75.

5. Close C, Kouvonen A, Bosqui T, Patel K, O'Reilly D, Donnelly M. The mental health and wellbeing of first generation migrants: a systematic-narrative review of reviews. *Glob Health*. (2016) 12:1–13. doi: 10.1186/s12992-016-0187-3

6. Kennedy S, Kidd MP, McDonald JT, Biddle N. The healthy immigrant effect: patterns and evidence from four countries. *J Int Migr Integr*. (2015) 16:317–32. doi: 10.1007/s12134-014-0340-x

7. Domnich A, Panatto D, Gasparini R, Amicizia D. The "healthy immigrant" effect: does it exist in Europe today? *Ital J Public Health*. (2012) 9:e7532-3. doi: 10.2427/7532

8. Vang ZM, Sigouin J, Flenon A, Gagnon A. Are immigrants healthier than native-born Canadians? A systematic review of the healthy immigrant effect in Canada. *Ethn Health*. (2017) 22:209–41. doi: 10.1080/13557858.2016.1246518

9. Constant AF, García-Muñoz T, Neuman S, Neuman T. A "healthy immigrant effect" or a "sick immigrant effect"? Selection and policies matter. *Eur J Health Econ*. (2018) 19:103–21. doi: 10.1007/s10198-017-0870-1

10. Nolan A, Layte R. The 'healthy immigrant effect': breastfeeding behaviour in Ireland. *Eur J Pub Health*. (2014) 25:626–31. doi: 10.1093/eurpub/cku177

11. Dhadda A, Greene G. 'The healthy migrant effect' for mental health in England: propensity-score matched analysis using the EMPIRIC survey. *J Immigr Minor Health*. (2018) 20:799–808. doi: 10.1007/s10903-017-0570-z

12. Rivera B, Casal B, Currais L. Length of stay and mental health of the immigrant population in Spain: evidence of the healthy immigrant effect. *Appl Econ*. (2015) 47:1972–82. doi: 10.1080/00036846.2014.1002895

13. Alegría M, Álvarez K, DiMarzio K. Immigration and mental health. *Curr Epidemiol Rep*. (2017) 4:145–55. doi: 10.1007/s40471-017-0111-2

14. Montazer S. Economic development of origin-countries, life-stage at immigration, and length of residence effects on psychological distress. *Social Currents*. (2018) 5:583–604. doi: 10.1177/2329496518780922

15. Lee R. Does the healthy immigrant effect apply to mental health? Examining the effects of immigrant generation and racial and ethnic background among Australian adults. *SSM-Population Health*. (2019) 7:100311. doi: 10.1016/j.ssmph.2018.10.011

16. Straiton M, Grant JF, Winefield HR, Taylor A. Mental health in immigrant men and women in Australia: the north West Adelaide health study. *BMC Public Health*. (2014) 14:1111. doi: 10.1186/1471-2458-14-1111

17. Mason J, Laporte A, McDonald JT, Kurdyak P, Fosse E, de Oliveira C. Assessing the "healthy immigrant effect" in mental health: intra-and inter-cohort trends in mood and/or anxiety disorders. *Soc Sci Med*. (2024) 340:116367. doi: 10.1016/j.socscimed.2023.116367

18. Blukacz A, Cabieses B, Markkula N. Inequities in mental health and mental healthcare between international immigrants and locals in Chile: a narrative review. *Int J Equity Health*. (2020) 19:1–15. doi: 10.1186/s12939-020-01312-2

19. Moore L, Jayaweera H, Redshaw M, Quigley M. Migration, ethnicity and mental health: evidence from mothers participating in the millennium cohort study. *Public Health*. (2019) 171:66–75. doi: 10.1016/j.puhe.2019.03.022

20. Sirin SR, Sin E, Clingain C, Rogers-Sirin L. Acculturative stress and mental health: implications for immigrant-origin youth. *Pediatr Clin N Am*. (2019) 66:641–53. doi: 10.1016/j.pcl.2019.02.010

21. Virupaksha HG, Kumar A, Nirmala BP. Migration and mental health: an interface. *J Nat Sci Biol Med*. (2014) 5:233–9. doi: 10.4103/0976-9668.136141

22. World Bank. GNI per capita, PPP (current international $). Chile: World Bank (2022).

23. Instituto Nacional de Estadísticas. Síntesis de resultados Encuesta Suplementaria de Ingresos. Santiago: INE (2023).

24. Ministerio de Desarrollo Social y Familia. CASEN 2022 Pobreza Multidimensional. Santiago: Ministerio de Desarrollo Social y Familia (2023).

25. Pan American Health Organization. ENLACE DATA Portal The Burden of Mental Disorders. US: PAHO (2025).

26. Vergara G, Dembowski N, Cruz C. Garantías y Garantías Explícitas en Salud (GES-AUGE) en patología de Depresión en el sistema de salud chileno. 10 años de experiencia y aprendizaje. *PSIQUIATRÍA Y SALUD MENTAL*. (2017) 34:5–20.

27. Departamento de Extranjería y Migración. Migración en Chile 2005–2014. Santiago: DEM (2015).

28. Instituto Nacional de Estadísticas. Estimación de personas extranjeras 2023. Santiago, Chile: Instituto Nacional de Estadísticas (2023).

29. Instituto Nacional de Estadísticas, Departamento de Extranjería y Migración. Estimación de Personas Extranjeras Residentes en Chile al 31 de Diciembre 2018. Santiago: INE y DEM (2019).

30. Servicio Nacional de Migraciones. Pobreza y migración Desde la Casen 2022. Santiago: SERMIG (2023).

31. Stefoni C, Cabieses B, Blukacz Á. Migraciones y COVID-19: Cuando el discurso securitista amenaza el derecho a la salud. *Simbiótica Revista Eletrônica*. (2021) 8:38–66. doi: 10.47456/simbitica.v8i2.36378

32. Rojas G, Fritsch R, Castro A, Guajardo V, Torres P, Díaz B. Trastornos mentales comunes y uso de servicios de salud en población inmigrante. *Rev Med Chile*. (2011) 139:1298–304. doi: 10.4067/S0034-98872011001000008

33. Urzúa A, Caqueo-Urízar A, Aragón D. Prevalencia de sintomatología ansiosa y depresiva en migrantes colombianos en Chile. *Rev Med Chile*. (2020) 148:1271–8. doi: 10.4067/S0034-98872020000901271

34. Errazuriz A, Schmidt K, Valenzuela P, Pino R, Jones PB. Common mental disorders in Peruvian immigrant in Chile: a comparison with the host population. *BMC Public Health*. (2023) 23:1274. doi: 10.1186/s12889-023-15793-7

35. Urzúa A, Heredia O, Caqueo-Urízar A. Salud mental y estrés por aculturación en inmigrantes sudamericanos en el norte de Chile. *Rev Med Chile*. (2016) 144:563–70. doi: 10.4067/S0034-98872016000500002

36. Carreño A, Blukacz A, Cabieses B, Jazanovich D. "Nadie está preparado para escuchar lo que vi": atención de salud mental de refugiados y solicitantes de asilo en Chile. *Salud Colect*. (2021) 16:e 3035. doi: 10.18294/sc.2020.3035

37. Blukacz A, Carreño Calderon A, Obach A, Cabieses B, Peroncini J, Oliva A. Perceptions of health needs among Venezuelan women crossing the border in northern Chile during the COVID-19 pandemic. *Int J Environ Res Public Health*. (2022) 19:15175. doi: 10.3390/ijerph192215175

38. Carreño-Calderón A, Cabieses B, Correa-Matus ME. Individual and structural barriers to Latin American refugees and asylum seekers' access to primary and mental healthcare in Chile: a qualitative study. *PLoS One*. (2020) 15:e0241153. doi: 10.1371/journal.pone.0241153

39. Blukacz A, Cabieses B, Obach A, Madrid P, Carreño A, Pickett KE, et al. "If I get sick here, I will never see my children again": the mental health of international migrants during the COVID-19 pandemic in Chile. *PLoS One*. (2022) 17:e0277517. doi: 10.1371/journal.pone.0277517

40. Seremi de Desarrollo Social y Familia RM. Índice de prioridad social de comunas 2022. Santiago, Chile: Ministerio de Desarrollo Social y Familia (2022).

41. Biblioteca del Congreso Nacional de Chile. Reported Comunales. Santiago: BCN (2024).

42. Servicio Nacional de Migraciones. Minuta población migrante en la comuna de San Ramón. Santiago: SERMIG (2024).

43. Servicio Nacional de Migraciones. Minuta población migrante en la comuna de La Pintana. Santiago: SERMIG (2024).

44. Servicio Nacional de Migraciones. Minuta población migrante en la comuna de La Granja. Santiago: SERMIG (2024).

45. Mitchell PH, Powell L, Blumenthal J, Norten J, Ironson G, Pitula CR, et al. A short social support measure for patients recovering from myocardial infarction: the ENRICHD social support inventory. *J Cardiopulm Rehabil Prev*. (2003) 23:398–403. doi: 10.1097/00008483-200311000-00001

46. Arenas P, Urzúa A. Estrategias de aculturación e identidad étnica: un estudio en migrantes sursur en el norte de Chile. *Univ Psychol*. (2016) 15:117–28. doi: 10.11144/Javeriana.upsy15-1.eaie

47. Eshel Y, Rosenthal-Sokolov M. Acculturation attitudes and sociocultural adjustment of sojourner youth in Israel. *J Soc Psychol*. (2000) 140:677–91. doi: 10.1080/00224540009600509

48. Marin G, Sabogal F, Marin BV, Otero-Sabogal R, Perez-Stable EJ. Development of a short acculturation scale for Hispanics. *Hisp J Behav Sci*. (1987) 9:183–205.

49. Van Den Muijsenbergh M, Teunissen E, van Weel-Baumgarten E, Van Weel C. Giving voice to the voiceless: how to involve vulnerable migrants in healthcare research. *Br J Gen Pract*. (2016) 66:284–5. doi: 10.3399/bjgp16X685321

50. IPSOS Global Advisor. Día Mundial de la Salud Mental 2024 Informe LATAM IPSOS (2024).

51. Ministerio de Salud. ENCUESTA NACIONAL DE SALUD 2016–2017 Segunda entrega de resultados. Santiago: MINSAL (2018).

52. Santos BF, Oliveira HN, Miranda AES, Hermsdorff HHM, Bressan J, Vieira JCM, et al. Research quality assessment: reliability and validation of the self-reported diagnosis of depression for participants of the cohort of universities of Minas Gerais (CUME project). *J Affective Disorders Reports*. (2021) 6:100238. doi: 10.1016/j.jadr.2021.100238

53. Lin S. Healthy immigrant effect or under-detection? Examining undiagnosed and unrecognized late-life depression for racialized immigrants and nonimmigrants in Canada. *J Gerontol: Series B*. (2024) 79:gbad104. doi: 10.1093/geronb/gbad104

54. Benassi F, Iglesias-Pascual R, Salvati L. Residential segregation and social diversification: exploring spatial settlement patterns of foreign population in southern European cities. *Habitat Int*. (2020) 101:102200. doi: 10.1016/j.habitatint.2020.102200

55. Galeano J, Bayona-i-Carrasco J. Residential segregation and clustering dynamics of migrants in the metropolitan area of Barcelona: a demo-spatial analysis at the census tract level. *Quetelet J*. (2018) 6:99–127. doi: 10.14428/rqj2018.06.01.05

56. Straiton ML, Aambø AK, Johansen R. Perceived discrimination, health and mental health among immigrants in Norway: the role of moderating factors. *BMC Public Health*. (2019) 19:325. doi: 10.1186/s12889-019-6649-9

57. Szaflarski M, Bauldry S. The effects of perceived discrimination on immigrant and refugee physical and mental health. *Immigration Health*. (2019) 19:173–204. doi: 10.1108/S1057-629020190000019009

58. Llácer A, Del Amo J, Garcia-Fulgueiras A, Ibanez-Rojo V, Garcia-Pino R, Jarrin I, et al. Discrimination and mental health in Ecuadorian immigrants in Spain. *J Epidemiol Community Health*. (2009) 63:766–72. doi: 10.1136/jech.2008.085530

59. Ubach LI, Santacana FI. Discriminación percibida, afrontamiento y salud mental en migrantes peruanos en Santiago de Chile. *Psicoperspectivas*. (2016) 15:157–68. doi: 10.5027/psicoperspectivas-Vol15-Issue1-fulltext-613

60. Stefoni C, Brito S. Migraciones y migrantes en los medios de prensa en Chile: La delicada relación entre las políticas de control y los procesos de racialización. *Rev Hist Soc Ment*. (2019) 23:1–28. doi: 10.35588/rhsm.v23i2.4099

61. Sibrian Díaz ND, Alfaro A, Núñez JC. Validación de instrumento sobre exposición de comunidades migrantes a discursos de odio en el ecosistema mediático chileno: resultados preliminares. *Rev Lat Comun Soc*. (2024) 82:42. doi: 10.4185/rlcs-2024-2226

62. Houghton LC, Paniagua-Avila A. Why and how epidemiologists should use mixed methods. *Epidemiology*. (2023) 34:175–85. doi: 10.1097/EDE.0000000000001565

frontiers | Frontiers in Public Health

TYPE Original Research
PUBLISHED 25 August 2025
DOI 10.3389/fpubh.2025.1620911

OPEN ACCESS

EDITED BY
Maria-Isabel Roldos,
The City University of New York, United States

REVIEWED BY
Kanakis Leledakis,
Panteion University, Greece
Carl Johansson,
Mälardalen University, Sweden

*CORRESPONDENCE
Ingrid Hellström
✉ Ingrid.hellstrom@mchs.se

RECEIVED 30 April 2025
ACCEPTED 04 August 2025
PUBLISHED 25 August 2025

CITATION
Zhou A, Ranada ÅL, Roos S and Hellström I (2025) A quest for understanding: older migrants' wellbeing beyond integration in Sweden.
Front. Public Health 13:1620911.
doi: 10.3389/fpubh.2025.1620911

A quest for understanding: older migrants' wellbeing beyond integration in Sweden

Anna Zhou[1], Åsa Larsson Ranada[1], Susanne Roos[1] and Ingrid Hellström[2]*

[1]Department of Health, Medicine and Caring Sciences, Linköping University, Linköping, Sweden, [2]Department of Health Care Sciences, Marie Cederschiöld University, Stockholm, Sweden

Purpose: This study investigates how older foreign-born adults in Sweden experience and navigate social connectedness as a determinant of wellbeing.
Methods: Employing Glaser's grounded theory methodology, we collected qualitative data through individual (n = 1) and focus group (n = 5) interviews with 23 participants aged 60 + representing four distinct cultural-linguistic groups: Arabic, Finnish, Spanish, and Chinese speakers.
Results: The analysis identified "*a quest for understanding*" as the core category, encompassing three dimensions: (1) *wanting to be understood*, (2) *wanting to understand*, and (3) *reaching for reconciliation*. While participants shared universal needs for validation and connection, their experiences revealed tensions between aspirations and the challenges of language barriers, cultural distance, and generational differences. Notably, perceptions and experiences showed strong within-group similarities but significant between-group variations.
Discussion: Framed by Nordenfelt's concept of wellbeing as "want-equilibrium," the findings highlight understanding as both a social need and existential pursuit. While Finnish speakers' minority status eased integration, Arabic and Chinese speakers navigated systemic inclusion yet social exclusion. Resilience strategies—bicultural fluency, insular solidarity, or self-reliance—reflected Bourdieusian capital disparities. Wellbeing thus hinges on mutual recognition: migrants' adaptability and Sweden's capacity to perceive them beyond structural categories.

KEYWORDS

belonging, culture, identity negotiation, social inclusion, migration, grounded theory

Introduction

Sweden is a diverse society, with approximately 20% of its population born abroad (1). Immigration has transformed Sweden from a relatively homogeneous nation before World War II into one of Europe's most multicultural countries today. In the 1950s and 1960s, labor migration - driven by economic expansion and labor shortages - dominated immigration patterns. From the 1970s onward, however, global conflicts and Sweden's comparatively generous asylum policies shifted the focus toward refugee migration. Family reunification also became a significant immigration channel. Public discourse on immigration intensified after the 2015 European refugee crisis, resulting in stricter asylum policies in 2016 and a heightened emphasis on social and economic integration. As a result, today's older foreign-born population in Sweden is highly heterogeneous, encompassing individuals with diverse

migratory backgrounds. This diversity has led to wide variation in living conditions, health status, and levels of social integration (2).

Both migration and aging represent major life transitions that profoundly reshape an individual's social capital and relational networks (3–5). Migration often disrupts long-standing social ties, compelling individuals to rebuild a sense of belonging in an unfamiliar sociocultural context (6). Aging, by contrast, is typically marked by a natural narrowing of social networks due to retirement, declining health, and the loss of peers and loved ones (7). When these transitions intersect - as in the case of older foreign-born individuals navigating migration regimes, elder care systems, and institutional structures - their social relationships and support networks may undergo complex reconfigurations within host societies (8).

Even family, traditionally regarded as the most critical source of emotional and practical support for older adults (9), may undergo structural and functional changes due to migration. Intergenerational tensions, cultural distance, and increased dependence can weaken familial ties, undermining older migrants' autonomy and wellbeing (10, 11). These dynamics raise concerns about older migrants' access to robust social relationships and emotional support beyond the immediate family.

Social networks, relationships, and connectedness collectively shape an individual's lived social reality. While social networks provide the structure of interactions (who people engage with), social relationships define the quality and function of those ties (how they interact), and social connectedness reflects the resulting psychological state - whether one feels fulfilled or isolated. Drawing on Bourdieu (12), we conceptualize these elements as forms of social capital: dynamic resources embedded in networks that confer tangible or intangible benefits (e.g., support, information, opportunities). Bourdieu further highlights how social capital perpetuates inequality, as its unequal distribution allows privileged groups to convert it into economic capital (e.g., securing jobs through connections) or cultural capital (e.g., acquiring knowledge via social ties).

The significance of social connection for wellbeing is well-established across disciplines. Psychological theories- from Maslow's hierarchy of needs (13) to Deci and Ryan's self-determination theory (14) and Erikson's developmental stages (15)—position belonging as fundamental to human thriving. This is especially salient in later life, as underscored by socioemotional selectivity theory (16) (prioritizing emotionally meaningful relationships) and attachment theory (17). Empirical research in public health reinforces this, linking strong social ties to better health outcomes, reduced mortality, and higher life satisfaction among older adults (18, 19). Recognizing these findings, the World Health Organization (20) has declared social connection a pillar of healthy aging, urging targeted interventions for vulnerable groups like older migrants, who face compounded risks of loneliness and exclusion.

To explore wellbeing in this context, we employ Nordenfelt's (21) theory of wellbeing, which defines it as the ability to realize one's *vital goals* - the set of conditions necessary for an individual's minimal happiness under *normal circumstances*. Yet for older migrants, these "normal circumstances" are often disrupted by the compounded challenges of aging and migration: language barriers, institutional exclusion, and the loss of culturally embedded support systems fracture the very conditions Nordenfelt presupposes as stable. Bourdieu's (12) concept of social capital enriches this perspective by framing social networks and relationships as *strategic resources* that enable older adults to compensate for such disruptions and achieve their vital goals.

Drawing on Hall's (22) conceptualization, culture is understood as operating through two interdependent systems: first, as a shared conceptual map that structures how people make sense of their world, and second, as language that enables communication and negotiation of these meanings. This dynamic framework of values, norms, practices and worldviews fundamentally shapes how individuals interpret their experiences and interact with others in social relationships. In this study, first language was used as a proxy for cultural identity, as it, though not a perfect cultural surrogate, often reflects deeply rooted social and communicative frameworks formed through early-life experiences (23). As older foreign-born individuals age in a new sociocultural context, their cultural background may continue to inform how they seek connection and interpret social roles in the host society.

Existing research on older adults' social networks across diverse national contexts has established how demographic factors, socioeconomic status, and ethnocultural background shape the structure, quality, and function of social ties (24–27). In Sweden, studies of older immigrants have provided important but narrowly focused insights - for example, MacInnes et al. (28) on Finnish and Western Balkan migrants' use of informal neighborhood spaces, or Magnusson and Kiwi (29) on Iranians' reliance on ethnic and religious associations for integration. Johansson et al. (30) further highlights how non-European older migrants exercise agency in pursuing "good aging" through a combination of kinship, community solidarity, and Sweden's welfare infrastructure. Yet these studies, while valuable, tend to isolate specific ethnic groups or focus on static network characteristics rather than the dynamic processes linking migration and aging to social connectedness. This study advances the field by examining how and why the intersection of migration and aging reshapes social ties and wellbeing across a broader spectrum of older foreign-born populations in Sweden.

The aim of this study is to investigate how older foreign-born adults in Sweden experience and navigate social connectedness as a determinant of wellbeing, addressing three key questions:

- How do perceived gaps between relational aspirations and actual social networks influence their wellbeing?
- In what ways do cultural backgrounds and migration experiences shape their sense of belonging in both private and institutional settings?
- What strategies do they employ to maintain wellbeing while negotiating identity and belonging in a new cultural context?

Materials and methods

Study design and setting

The research design for the study is based on the Glaserian paradigm of Grounded Theory (31), which emphasizes a systematic, iterative process of data collection and analysis. Key elements include theoretical sampling (selecting data based on emerging concepts), constant comparison (comparing data to refine categories), and theoretical saturation (stopping when no new insights arise). The research setting was a medium-sized municipality in southeastern

Sweden with nearly 30% foreign-born population but otherwise a demographic composition that was representative of the average of the country.

Participants

The study utilized qualitative data comprising five focus group discussions and one individual interview, conducted between October 2024 and February 2025. Participants were foreign-born individuals aged 60 years or older who met the inclusion criterion of being capable of engaging in conversations independently. To ensure representation across key dimensions such as immigration history, socioeconomic status and cultural background, several sampling strategies were employed. While we aimed to balance all these factors, primary sampling considerations focused on variations in age and migration-related characteristics - specifically country of birth, length of residence in Sweden, and age at immigration. These were prioritized due to their anticipated relevance to the study's objectives.

The study used participants' first languages as a proxy for cultural differences, organizing focus groups into one Chinese-speaking, one Finnish-speaking, two Arabic-speaking, and one Spanish-speaking group. This selection served a dual purpose: (1) representing the demographic composition of Sweden's older foreign-born population, where Finnish and Arabic speakers are among the largest groups, and (2) capturing cultural dimensions aligned with the World Cultural Map (32). While Finnish, Arabic, and Spanish speakers reflect major immigrant communities in both Sweden and the study municipality, Chinese speakers - despite their smaller local and national presence - were included to provide linguistic and cultural contrast beyond the Indo-European and Afro-Asiatic language families (33).

Following the Chinese focus group, we conducted an individual interview with an 80-year-old Chinese-speaking participant (C5) who opted out of the group session but agreed to a one-on-one format. Respecting the participant's preference for comfort aligned with Glaser's (31) "all is data" principle, and we anticipated that this approach might enrich the dataset by capturing a deeper, uninterrupted perspective distinct from group dynamics. Preliminary analysis, however, revealed minimal variation attributable to age differences, leading us to prioritize migration status as a more salient factor in subsequent stages.

Recognizing substantial heterogeneity in immigration backgrounds and socioeconomic status within Sweden's Arabic-speaking population, we strategically divided participants into two distinct groups: Swedish-speaking and non-Swedish-speaking, reflecting differing levels of integration. After initial sessions, we limited group sizes to 4–6 participants to ensure equitable speaking opportunities - a critical consideration given many participants' limited Swedish proficiency. While traditional focus groups typically consist of 6–8 participants (34, 35), smaller groups of 3 or 4 participants are methodologically justified for participants with specialized knowledge, hard-to-reach populations or sensitive topics (36–38). Given the language barriers and recruitment challenges inherent in studying older migrants, this study employed "mini-focus groups" (38, p.17) to prioritize meaningful interaction and participant comfort. Notably, one Chilean participant withdrew immediately prior to the session, resulting in a final Spanish-speaking group of three. While we debated recruiting an additional group to mitigate potential data limitations, practical constraints (e.g., time) precluded this adjustment.

Table 1 is a list of all the 23 participants. The list is arranged in the order of interviews.

Recruitment of participants

Participant recruitment employed a multi-pronged approach tailored to availability and context. The first author visited various meeting places frequented by older adults, including eight municipal social centers designed to promote activities and social engagement among older individuals and people with disabilities. Notably, while these centers were distributed across major city neighborhoods—including several located in areas where approximately 80% of residents were foreign-born—we observed almost no attendance by older non-European immigrants at any of these locations. This observation sparked our interest in understanding the reluctance of older immigrants to participate in social activities with native Swedish peers. While we initially sought to recruit diverse participants for focus groups, we encountered significant challenges in encouraging them to either engage in conversations with strangers or travel to unfamiliar locations, ultimately necessitating alternative recruitment strategies.

As a result, we pivoted to collaborating with three local cultural organizations serving immigrant communities: a Finnish social center, a multicultural association, and a Syrian Orthodox church. After interviewing representatives from each organization, we requested their assistance in disseminating study information to potentially eligible members. This approach successfully enabled recruitment for both the Finnish and Arabic-speaking focus groups.

We acknowledge that Syrian Orthodox church members represent only one segment of the Arabic-speaking cultural spectrum, and that Finnish social center attendees may reflect particular social network preferences. This recruitment strategy inherently involved trade-offs between sample diversity and participant comfort—a deliberate choice prioritizing participants' ease of engagement in the research process.

Participants in the Chinese-speaking and Spanish-speaking focus groups were recruited through a combination of convenience sampling (39) and subsequent snowball (network) sampling (39).

Data collection

One general question was asked at all our focus group discussions: "*who do you turn to if you need someone to talk to or if you need some assistance*?" The discussion guide explored four key themes: (1) the composition and supportive functions of participants' social networks, (2) the role of social relationships in health and wellbeing during aging, (3) how migration backgrounds shaped social connectedness, and (4) experiences with Swedish authorities (particularly healthcare). The same guide was adapted for use in the individual interview with the Chinese-speaking participant. The length of focus group discussion sessions and the individual interview was between 70 and 90 min. At the end of each session the participants were always asked to answer a structured questionnaire about their personal data: name, age, country of birth, years lived in Sweden, age at the time of immigration to Sweden, motive for migration, marital status, years of formal education,

10.3389/fpubh.2025.1620911

TABLE 1 List of participants.

No.	Age/ Gender/ Marital status	Reason for immigration	Country of origin	Age at the time of migration	Years lived in Sweden	Years of formal education	Employment status
C1	69/Female/ Divorced	Family	China	31	38	16	Working
C2	63/Female/ Married	Work	China	23	40	12	Working
C3	62/Female/ Married	Family	China	25	37	16	Working
C4	66/Female/ Married	Family	China	48	18	12	Pensioner
C5	80/Female/ Married	Family	China	35	45	16	Pensioner
A1	62/Male/Married	Asylum	Iraq	45	17	24	Working
A2	62/Male/Married	Asylum	Iraq	45	17	16	Working
A3	62/Female/ Married	Asylum	Iraq	46	16	20	Working
A4	64/Female/ Widow	Asylum/Family	Syria	19	45	11	Working
A5	60/Female/ Married	Asylum/Family	Turkey	13	46	13	Working
A6	60/Male/Married	Asylum	Iraq	37	23	13	Working
F1	62/Female/ Divorced	Family	Finland	6	56	11	Working
F2	85/Female/ Married	Work	Finland	30	54	9	Pensioner
F3	85/Male/Married	Work	Finland	30	54	6	Pensioner
F4	69/Female/ Divorced	Family	Finland	19	50	10	Pensioner
F5	78/Female/Single	Family	Finland	29	49	8	Pensioner
A7	64/Female/ Married	Asylum	Iraq	45	19	9	Pensioner
A8	68/Female/ Widow	Asylum	Iraq	60	8	15	Pensioner
A9	64/Male/Married	Asylum	Iraq	47	17	16	Working
A10	67/Male/Married	Asylum	Iraq	49	18	18	Pensioner
S1	67/Female/ Divorced	Asylum/Family	Chile	24	43	12	Pensioner
S2	76/Male/ Divorced	Asylum	Chile	39	37	12	Pensioner
S3	68/Female/ Married	Asylum/Family	Chile	22	46	15	Pensioner

and employment status. All focus group discussions and the individual interview were conducted by the first author, with one session including another researcher from the team participating digitally as an observer. Discussions with the Chinese-speaking participants were conducted in Mandarin, the first language for the first author, also an authorized and active Mandarin-Swedish interpreter. The remaining focus group discussions were conducted in Swedish. A registered interpreter by the Swedish Kammarkollegiet was employed to the second Arabian focus group discussion. All interviews were audio-recorded and transcribed verbatim. A field research memo was written after each session, to document the researcher's impressions of the participants, group dynamics, participant interactions, situations during discussions, and reflections on the primary findings and strategies for future recruitment of new focus groups.

Member checking

Member checking was conducted by returning all transcriptions to participants for accuracy verification and resonance with their experiences. All participants approved the final transcriptions.

Ethics approval and consent to participate

The study was approved by the Swedish Ethical Review Authority (Dnr: 2023-04950-01). Codes have been used to protect the participants' anonymity. Both oral and written information about the study and consent forms were provided when contacting potential participants. Data collection began only after participants have given their verbal and written consent. Information about the study and consent were reiterated for all participants before each session. No data on political opinions or religious beliefs were collected.

Data analysis

All data were analyzed using grounded theory methodology (31). The analysis proceeded in two phases: First, each session was coded individually; subsequently, constant comparative analysis was applied across all transcripts. The Chinese-speaking participant's individual interview underwent initial separate analysis before being systematically compared with the Chinese-speaking focus group data. Upon confirming thematic consistency between these datasets (with no significant categorical discrepancies observed), the individual interview data were incorporated into the focus group analysis. The data from the sessions, along with the research memos, were examined line-by-line, with open coding applied to capture the informants' perceptions and experiences. The data was conceptualized and coded into categories. Initial concepts and categories included for example "deep understanding," "sense of belonging," "recognition," "identity and identification," "acknowledgment vs. invalidation," "reflection and revaluation," and "acceptance and reconciliation."

After analyzing the first four focus groups with Chinese speakers, the first Arabic-speakers, and the Finnish speakers, the core category "a quest for understanding" emerged, supported by subcategories "wanting to be understood," "wanting to understand," and "reaching for reconciliation." To determine whether these findings were consistent among Arabic-speaking communities in Sweden, we conducted a second focus group with participants who had relatively shorter residency periods and varying levels of Swedish proficiency. Notably, their experiences aligned with the existing categories, further reinforcing the emerging patterns.

Finally, theoretical sampling (31) was used to recruit the Spanish-speaking focus group. This approach aimed to collect additional data related to emerging concepts, identify gaps, and refine the theoretical model. The new insights enhanced the depth and robustness of the core category and subcategories, confirming that theoretical saturation (31) had been achieved.

A new research memo was developed to synthesize and analyze the relationships between all emerging concepts and categories. Once the framework of hypotheses stabilized, we systematically reviewed relevant literature, including theories and policy documents on health and wellbeing, culture, social capital, and research on social networks among older migrants. Using emergent fit (40), we incorporated components of pre-existing theories that aligned with our data, treating them as new evidence for comparison with the emerging hypotheses. This process preceded the integration of final conclusions.

Following each interview, the research team collectively analyzed the generated data, including interview transcripts and research memos. To ensure the trustworthiness of the findings, we conducted peer-debriefing sessions with the first author, who served as the primary coder (41). Additionally, we systematically sought disconfirming evidence (42) to validate that our findings accurately represented both individual interpretations and the shared perspectives on the issues examined.

Results

The participants chose to engage in meaningful social relationships that provided a context in which they could best understand others and be understood by others. This was because they perceived the essence of social interaction as an opportunity to explore, express, and affirm their thoughts, feelings, and experiences. This manifested as a core phenomenon - *a quest for understanding* - comprising three interrelated dimensions:

- *Wanting to be understood*, reflecting their need for recognition, inclusion, and appreciation of their unique experiences, cultural identities and personal histories;
- *Wanting to understand*, demonstrating their reflections on both shared challenges and distinct cultural strengths when they navigated their identities and integration into Swedish society; and
- *Reaching for reconciliation*, representing their ultimate pursuit of both self-acceptance and acceptance within their social world.

These findings revealed the participants´ dual needs for validation through being understood and connection through understanding others. The two primary desires proved complementary rather than contradictory: as participants developed empathy for others' perspectives, they simultaneously created conditions for reciprocal understanding of their own experiences. Over time, this process evolved into a deeper reconciliation of cultural, relational, and generational divides, enabling participants to negotiate their evolving identities while seeking common ground, as they tried to adapt to the social world they inhabited in.

In the following presentation, the first two subcategories (*wanting to be understood* and *wanting to understand*) are structured according to focus group discussions, as notable homogeneity within groups—and divergence between them—arose from varying cultural distances from Swedish society and differing migration backgrounds. In contrast, the final subcategory (*reaching for reconciliation*) is presented from individual perspectives, as participants across all groups sought to depict their social lives in a holistic, nuanced manner, with minimal intergroup variation.

Wanting to be understood

The findings revealed that participants predominantly sought social connections with compatriots who shared their first language

and life experiences, while facing varying degrees of difficulty building relationships with native Swedes. These challenges stemmed from language barriers, cultural distance, the reserved nature of Swedish social interactions, and societal prejudices—particularly toward Arabic-speaking communities. Participants from these groups, including long-term residents who identified as both Swedish and culturally hybrid, reported being stereotyped or perceived as "outsiders" despite their integration efforts.

The Finnish-speaking participants were unique in reporting that they did not perceive themselves—nor were they perceived—as immigrants. Nevertheless, they valued gatherings with fellow Finns, where they could speak Finnish and engage in shared cultural practices such as Finnish music, art, cuisine, and handicrafts. They usually celebrated all the traditional Finnish holidays together. Notably, they emphasized cultural distinctions between Finns and Swedes, attributing these differences to Finland's historical experiences of war and poverty, which shaped a distinct national mindset. Some referenced the prejudices faced by earlier Finnish immigrants in Sweden during the 1950s–1970s, many of whom had migrated due to post-war hardships. A lingering "*little brother versus big brother*" dynamic with Sweden also persisted.

> F3: *"We've lived in Sweden for a very long time. We're really happy here - there's nothing missing. But we always vacationed in Finland when we were working and in the first years of our retirement."*
>
> F2: *"I enjoy living in the countryside, and I like being here. I feel comfortable when everyone speaks Finnish. I've only learned a little Swedish."*
>
> F4: *"This place actually means quite a lot. It's the language and the sense of community. For those who are alone, this means something extra. Personally, I've served on the board of the Swedish Rheumatism Association and coached for the local swimming club. So I have both. I'm on both sides. And it's really fun that I get to do that."*

Like the Finns, the Spanish-speaking participants reported good integration after nearly five decades in Sweden, with Swedish friends, colleagues, neighbors, and even family members. Yet, they still identified themselves as immigrants, citing two key factors. One was language barriers: Their self-perceived imperfect Swedish affected how seriously they felt they were taken. Another was cultural differences in sociality: They described Latin American social interaction as more expressive, with music and dance as intrinsic to identity and emotional expression.

> S3: *"My husband, who is fully Swedish, spends much more time with us than with Swedes. He thinks it's very pleasant. There's always lots of food, music, and dancing when we get together. Music is something in our genes - I've been playing since childhood."*
>
> S2: *"My daughter is married to a Swede. She's kind and always invites me to their place for Christmas. But I feel like it's just 'how are you?' and 'fine, thanks!' It's a bit dull at the Swedes' place. They do not speak Spanish. I might as well stay home and listen to my old cassettes."*
>
> S3: *"But after all, I think we Chileans have managed pretty well in Sweden, do not you agree?"*
>
> S2: *"Absolutely! I've had lots of friends over the years - Swedes, Finns, immigrants from all over."*
>
> S1: *"I think it depends a bit on where you end up - what workplaces, what social circles, what environments.*

The local Chinese community was relatively small compared to other immigrant groups and lacked organization. The Chinese-speaking participants described pronounced social isolation, struggling to form meaningful connections with either Swedes or fellow Chinese. They identified greater linguistic and cultural distances than other immigrant groups, with Swedish cuisine posing a particularly symbolic challenge—framed not just as dietary discomfort but as a cultural and existential longing for familiarity. They emphasized that only Chinese peers of similar age and life experiences could fully understand their perspectives. Additionally, they noted a lack of cohesion within the Chinese community, citing mutual distrust and lower tolerance among compatriots compared to other immigrant groups.

> C2: *"Of course it's important to have friends! But it's so difficult with Chinese people."*
>
> C4: *"Chinese people are the worst at sticking together."*
>
> C3: *"I agree."*
>
> C1: *"Yes, say what you will about those from the Middle East and Africa - they really stand up for their countrymen like brothers and sisters when it matters, for real! It makes you envious. We Chinese are far too lacking in this regard."*
>
> Moderator: *"But I asked about your social relationships and networks, and so far you have only talked about Chinese people you have met in Sweden. Should I interpret this as meaning you think relationships with other compatriots in your environment are important?"*
> C1, C2, C3, C4: *"Of course it's important!!"*
>
> Moderator: *"Why is that?"*
> C3: *"It's that depth of understanding. My Swedish husband really wants to understand me - I have a kind husband - but sometimes it's hard to make him understand when I want to explain more complicated thoughts and feelings. There's a little empty room that's hard to fill. He cannot feel what I feel."*
>
> C2: *"It might be about language. Maybe you have difficulty fully conveying what you feel. You meet halfway."*
>
> C1: *"It could also be about life experiences. It's so much easier to understand each other if you have lived in the same country during the same time periods."*
>
> C3: *"Then there's food too. Food is important."*

> C1: *"Food is a big deal. In this regard, we Chinese are truly different. We stand out in the world - maybe we are only similar to a few other East Asian countries. Actually, Middle Eastern food is not all that different from Swedish food. They can appreciate each other's cuisine. Even African food is closer to European food."*

In contrast, Arabic-speaking participants expressed strong solidarity with compatriots and other Middle Eastern communities, rooted in shared language, history, and social customs. Many cited the church as a central hub for cultural preservation, offering activities for all ages—from children and working-age adults to older pensioners. These included traditional festivals, language classes, handicrafts, and charity work. The congregation also organized separate activities tailored for women and men, fostering a sense of community across generations and genders. At the same time, they reported a sense of resignation when it came to integrating into Swedish society, describing persistent barriers to forming friendships with Swedes and structural challenges like employment discrimination.

> A7: *"When you come here alone, you really need someone you know you can turn to. I'm grateful for my congregation - I'm here often. I have several close friends who also belong to this church community."*
>
> A8: *"Not long ago, I had surgery. When I recovered enough to go out, my first destination was coming here to the congregation."*
>
> A10: *"Swedes aren't really into community. I find them a bit difficult and dull. When I first came to Sweden at 48, I wanted to integrate into Swedish society - but I could not. I could not break into the job market. Socially, though, we have no shortage of community among ourselves. We have our immediate families, who meet daily or weekly; then extended relatives like cousins we spend time with; and beyond that, there's our congregation - lots of compatriots or people from the same region who meet once, twice, or three times a month. We throw parties when we gather. Our families also visit each other often."*

Even those who immigrated young and spent most of their lives in Sweden shared these frustrations, feeling misunderstood and undervalued due to stereotypes and non-recognition of their qualifications.

> A4: *"I came to Sweden long ago, and I've worked here my whole life. Yet I still do not have many Swedish friends - and it's not because of the language. Once, I asked a neighbor who was my age if we could spend time together. But during our walks, all her questions were about money: 'How could you, a widow with kids, afford a house? Where did the money come from?' Finally, I told her: 'My husband worked himself to death here. We pay taxes, just like you. We've done right by this society.'"*
>
> A5: *"We've lived in this country for a long time. We've worked, paid taxes, and done our part - so we have the right to speak up about what we think. I've lived in this area the whole time, and it's changed a lot. At first, I had many Swedish friends, but as people from all over the world moved in, most Swedes left. So no, we do not have much contact with Swedes anymore."*

In conclusion, participants consistently found the deepest understanding among those who shared their language and life experiences, reinforcing their reliance on ethnic communities. While Finnish and Spanish speakers felt accepted (if not fully understood) by Swedish society, Arabic and Chinese speakers reported more systemic exclusion. The former derived strength from tight-knit communities, whereas the latter grappled with a broader sense of displacement.

Wanting to understand

The question of social relationships prompted participants to reflect deeply on their lived experiences, sparking moments of introspection. This desire to understand extended beyond personal connections to include their aspirations to comprehend both Swedish society and their heritage cultures, which continued to shape their identities in profound ways.

Arabic-speaking participants observed that immigrant segregation from native Swedes had intensified over time, particularly for Middle Eastern communities. They attributed this to four interrelated factors. One was language barriers: While acknowledging labor market discrimination, they noted their children—who spoke fluent Swedish—integrated more easily, suggesting age of arrival and language proficiency were pivotal to social acceptance. Another was cultural distance: They reinterpreted Swedish reserve as a cultural norm rather than exclusion, observing similar behavior among Swedes with family and friends. The third was negative stereotypes: They critically reflected that some immigrant groups' misconduct (e.g., youth gang crime) exacerbated prejudices affecting all immigrants. The last reason was policy failures: They found political efforts appeared more focused on maintaining public approval than addressing systemic social issues. Despite these challenges, they expressed strong appreciation for Sweden's rule of law, welfare system, and governance, viewing it as their permanent home. To bridge understanding, their community organizations regularly hosted Swedish officials (e.g., police, healthcare workers) for dialogues on societal systems.

> A8: *"If you compare Sweden with many other countries, we have it much better here."*
>
> A7: *"There are many positive aspects of Swedish society. Everyone is pleasant - at the healthcare center, the Social Insurance Agency, really everywhere when dealing with government offices. At the hospital, they do everything - they ask how we are feeling, what we need. When you arrive, they greet you; they thank you when they leave. They do everything. This is rare in other countries."*
>
> A10: *"We've learned many things. Above all, we have learned patience. You must queue. You must be on time. There are rules. Right must be right. The law is the law. Even though we are not fully accepted by the Swedes, we are ready to fight for this country - because this is our land now."*

The Chinese-speaking participants identified a lack of institutional guidance as a major hurdle, particularly given Sweden's complex legal

and cultural differences from China. Their proposed solution was a community-led chat group, where established Chinese diaspora could share practical knowledge (e.g., navigating bureaucracy) to ease newcomers' transition. They believed that only a Chinese peer - particularly one who had navigated the transition between Chinese and Swedish contexts - could effectively identify which aspects of Swedish society might prove most surprising, confusing, or institutionally critical for newcomers.

> C4: *"As someone who does not speak Swedish, I enthusiastically support having a functioning local Chinese network! Even just a chat group goes a long way. Whenever I have a question, someone in the group who knows will answer. There's so much bureaucracy for everything in Sweden."*
>
> C1: *"It's good we can help each other. There's a real need for this."*
>
> C2: *"I think we should also meet sometimes and get to know each other better, do things together if people want. Those who are better off could contribute a little more to those struggling. But everyone must contribute. It needs to be a mutual, balanced, and fair relationship."*

In contrast, discussions among Finnish- and Spanish-speaking participants focused less on integration struggles and more on preserving their heritage while enjoying bicultural fluency.

The Chileans nostalgically recalled the golden 1980s, when thousands of immigrants from Chile and other Latin American countries arrived in this city, when cross-cultural activities (playing football, boxing, dancing) fostered solidarity with the locals. Back then, everyone was friends. Though less active now, their community remained tightly knit, mobilizing for crises for their compatriots in Chile and in Sweden. They established a local Spanish-language radio station, sustained through collective volunteer efforts, which had become their digital gathering place. They broadcasted news and music from Latin America, sometimes even receiving calls from Chile. The radio station served as an acoustic bridge, rendering their distant homeland simultaneously remote and proximate - geographically far yet culturally immediate.

One of the participants, S2, had worked for the radio as a volunteer for many years.

> S2: *"I do it because on the radio, I can do so much of what I love. People call in, and we discuss music, travels, anything at all. It's a lovely way to socialize. I used to host my own show called The Corner."*
>
> S1: *"The Romantic Corner! He played beautiful romantic music!"*
>
> S2 (laughing): *"Yes, gorgeous romantic songs from around the world! But then people started complaining that I played Swedish and English tracks too. They only wanted Spanish music!"*
>
> S3: *"This radio station has become vital for us Chileans in town. I even feel a bit empty when I'm traveling and cannot tune in. We do not meet as often anymore, but if something happens back home or a fellow Chilean faces hardship, we always hear the news on the radio and rally to collect funds. We're still here when it matters."*

The Finnish speakers viewed themselves as custodians of a diminishing cultural heritage in Sweden, particularly as new Finnish migration had ceased. This perception persisted despite Finnish Swedes' status as a recognized national minority in Sweden - a designation that guarantees official protection and preservation of the Finnish language and culture. The participants gathered weekly simply to speak Finnish, underscoring the language's vital role in fostering a sense of unity and belonging within the community. They emphasized the psychological toll of aging in a non-native language. Struggling to express complex emotions, memories, and thoughts in a second language could be deeply frustrating and stressful, particularly for those who never had the chance to become fluent. The added challenge of potential dementia in old age might further complicate their situation. This was why many desired to move into a Finnish-focused nursing home with Finnish-speaking staff when they could no longer manage on their own.

> F1: *"I work at a nursing home with a Finnish profile - meaning we incorporate both Finnish and Swedish cultures. We have two dementia units. Language is crucial here. We have staff who speak Finnish, because often when dementia progresses, residents lose their Swedish language skills. When it's someone like my mother, who's experiencing early memory loss, having caregivers who speak Finnish makes all the difference. It lets her age with dignity."*
>
> Moderator: "*So dignity is what's at stake here?"*
> F1: *"Exactly – it's about being truly understood."*
>
> F4: *"It's about being truly seen. I myself will turn 70 next year. In 10 years, I'll be 80. It's approaching. I'm so grateful that Finnish-speaking nursing homes exist here. The best thing is that they embrace both Swedish and Finnish languages and cultures, though as the years pass, I suspect I'll need Finnish more and more. My son and I are close, but we have lost our Finnish connection. He spoke it as a child, but now. it's gone."*
>
> F5: *"I just hope there will still be spots available for us when the time comes - those Finnish nursing homes!"*

In conclusion, with thoughtful reflections, the participants tried to navigate dual cultural worlds with both intellectual curiosity and profound respect - a perception stemmed from their fundamental need to comprehend both their adopted social realities and their transforming selves.

Reaching for reconciliation

The participants were consciously negotiating between their aspirational wants and needs (cultural preservation, meaningful connection, generational continuity) and their actual living circumstances (integration challenges, cultural gaps, evolving identities). This process manifested as they reflected on their life journeys, developing nuanced understandings of social relationships that balanced cultural negotiation (preserving heritage while adapting to Swedish society), relational equilibrium (needing connection yet valuing independence), and generational acceptance (releasing expectations while finding new meaning in their descendants'

integration). The term "reconciliation," rather than mere "acceptance," emphasizes the active deliberation behind this stance - participants did not passively surrender to circumstances but engaged in continuous meaning-making to align their ideals with reality.

While some participants acknowledged the challenges of integrating into Swedish society, most had negotiated a balance between their dual identities as immigrants and long-term residents. This delicate equilibrium was perhaps best illustrated by one participant's story (A7, smiling): *"My Swedish neighbor and I had a little ritual for years. I'd bring her freshly baked bread - she'd take it with a quick 'tack!' through a barely opened door, never inviting me in. But that was our dance, you know? She kept her ways, I kept mine, and somehow that worked just fine."* Her reflection resonated with others in the group, including A9's pragmatic observation: *"This is the way they are, and that is the way we are - it's simply how things are, and we must learn to live with it."* Together, these accounts reveal a quiet recognition that full assimilation into Swedish norms - or full acceptance as equals - might remain elusive. Yet within that space, participants cultivated a hard-won mutual understanding, choosing respect over resistance while preserving their own cultural rhythms. This sentiment was echoed by another participant, who simply stated, *"People are just different, and that is alright"* (S3), encapsulating a pragmatic acceptance of diversity without the expectation of complete integration. This acceptance of cultural differences allowed them to navigate their lives with a sense of peace. They valued the trust they placed in Swedish institutions and the stability Sweden providing, often describing it as the best place to live despite the social and cultural barriers they faced in their personal contacts with native Swedes. Even though some had considered moving back to their home countries after retirement for a more comfortable aging - with more favorable food, climate, cultural activities and social community - most participants now regarded Sweden as their home, not only because of the lives they had built here but also because of their children and grandchildren. After all, "*home is where my children and grandchildren are*," as several participants poignantly stated.

One point of consensus among participants across all groups was the growing cultural gap between themselves and their younger descendants, as one participant starkly observed:" *The best scenario is to grow old surrounded by family. But my daughter has already told me quite plainly: 'I see how you care for your mother, but I will not be able to take care of you the same way you have cared for her'"* (C5). Older generations emphasized the importance of family unity, respect for traditions, and, most notably, the expectation that their children would take responsibility for them in old age. However, this expectation was not merely about practical support - such as providing physical care or financial assistance - but also about emotional solidarity and a sense of enduring familial devotion. For many, true care meant not just doing for one's parents but caring about them - maintaining close bonds, showing affection, and ensuring that older people felt valued rather than abandoned. This deeper, affective dimension of care was often what participants felt was most at risk as younger generations assimilated into individualistic norms. This disconnection fosters some frustration and a sense of loss among the participants. "*I cannot force them to like my language and my culture,*" one participant (S2) remarked, encapsulating the bittersweet acceptance of this reality. At the same time, they also acknowledged that their children and grandchildren had become a bridge to Swedish society, offering them opportunities to learn about and integrate into the culture more deeply than they might have otherwise. Despite their own challenges and struggles, they found comfort in knowing that their children had achieved a level of integration they themselves could not, viewing it as a testament to their sacrifices and efforts. This reconciliation allowed them to let go of the expectation that their cultural legacy would be fully embraced by their descendants.

For many participants, aloneness was not merely a state of isolation but a conscious pursuit with two distinct yet intertwined purposes. First, it served as a retreat from social interactions perceived as hollow or draining - a way to preserve dignity and emotional wellbeing by rejecting the superficial. As one participant succinctly put it, *"Sometimes, being alone is better than being in bad company"* (C5). This sentiment was especially prominent among Chinese participants, who often framed solitude as a boundary against unsatisfying relationships, prioritizing quality over quantity in their social lives. Yet solitude also held a more profound, affirmative role: a space for self-discovery and a deepened relationship with oneself. Freed from the noise of obligatory socialization, participants engaged in introspection, creative hobbies, or immersive experiences in nature. "*I find everything I need in the forest,*" shared one Finnish participant living in a rural area, *"I feel a connection with nature and the animals that is more fulfilling than many human relationships"* (F3). Here, solitude transcended mere withdrawal; it became a way to engage more deeply with life itself - to observe, reflect, and ultimately redefine what meaning and connection could entail.

A clear consensus emerged among participants: the ideal social relationship was one of balance. The first balance was between autonomy and connection - individuals should maintain a strong sense of self while engaging with others. The second involved self-sufficiency and interdependence: they valued the ability to manage daily life independently yet remain open to leaning on others when deeper connection was needed. Beyond these dualities, many aspired to a vision of belonging that felt both personal and universal - one that transcended labels like "immigrant" and embraced a shared identity as human beings. As one participant poignantly remarked, *"I am friends with everyone, and everyone is my friend"* (S1).

Discussion

This study illuminates how older migrants in Sweden navigate belonging through a *quest for understanding* - a struggle to align vital social goals with lived realities. Below, we discuss these dynamics through three research lenses: relational gaps, cultural scripts, and agentic resilience.

Relational gaps and divergent wellbeing outcomes

Consistent with Nordenfelt's theory of wellbeing as goal-reality alignment (22), participants' relational gaps - the disparity between desired and actual social connections - varied significantly by cultural-linguistic background, with profound implications for wellbeing.

- Finnish speakers' minimal gaps reflected their intersectional advantages: national minority status, geographic proximity, and decades of community advocacy that mitigated early discrimination. Their bilingual fluency enabled access to both Finnish and Swedish social worlds, allowing them to preserve

cultural identity while integrating structurally (e.g., Finnish nursing homes).

- Arabic speakers faced systemic marginalization despite strong intra-group solidarity. While their tight-knit communities provided emotional support, exclusion from Swedish circles persisted due to language barriers and cultural stereotypes. Even long-term residents who self-identified as Swedish reported being perceived as outsiders, highlighting how prejudices compounded relational gaps.
- Chinese speakers endured the largest gaps, with neither robust ethnic networks nor Swedish inclusion. Cultural distance (e.g., food as symbolic displacement) and mistrust among compatriots left them doubly isolated. Their struggles reflected a scarcity of social resources - linguistic, institutional, and communal- to bridge aspirations and reality.

These disparities align with Bourdieu's social capital theory (13): Finnish-speaking participants' cultural/linguistic capital facilitated access to Swedish networks, while Arabic and Chinese speakers' exclusion perpetuated inequality, limiting their ability to convert social ties into wellbeing.

Cultural scripts and belonging in private vs. institutional spaces

Arabic-speaking participants expressed profound appreciation for Sweden's public systems - healthcare, rule of law, and welfare. Such trust anchored their belonging at a structural level, with many declaring Sweden their permanent home. Yet this official belonging contrasted sharply with the social exclusion they experienced in daily life. This duality aligns with Ager and Strang's (43) framework, where institutional integration (e.g., access to services) can occur alongside persistent social and cultural barriers. In contrast, Chinese participants lacked even this institutional foothold, citing opaque bureaucracy and minimal guidance. Their isolation was thus doubly compounded: excluded from both Swedish social circles and institutional support networks.

Hall (23) argues that culture provides mental "maps" through which people decode their experiences - what is familiar becomes "home," while the unfamiliar is marked as "other." These conceptual maps clarify why participants trusted Swedish institutions yet felt socially excluded: their cultural frameworks rendered them "legible" to systems but "illegible" in everyday Swedish life, a paradox in the multicultural Swedish society documented by Ålund and Schierup (44). This misalignment underscores that belonging requires not just structural inclusion but shared codes of understanding.

Understanding as the foundation of belonging

At the heart of participants' narratives lay a quest for mutual understanding - a desire not only to *be understood* as individuals of worth but to *understand* the cultural codes of their adopted homeland. This reciprocal process emerged as the bedrock of belonging: without Swedes' *will to understand* their histories, hybrid identities, or emotional languages, structural inclusion (e.g., residency, healthcare access) remained hollow. Finnish speakers' relative success in achieving belonging reflects both their long-term residence and Sweden's eventual recognition of their community as a national minority- factors that mitigated initial post-war discrimination. While their geographic, linguistic, and cultural proximity provided foundations for mutual understanding, it was the accumulation of shared time and institutional validation that transformed tentative acceptance into durable belonging. In contrast, Arabic and Chinese speakers faced asymmetrical understanding - they invested heavily in comprehending Swedish norms, yet felt their own identities were dismissed as incomprehensible. This asymmetry bred a belonging limbo: officially welcomed by Sweden's systems yet socially orphaned by its people. The findings indicate that belonging cannot be legislated into existence; it flourishes only where understanding is mutual, curious, and unconditional.

Agentic resilience: negotiating identity and belonging

The study reveals how older migrants actively reconfigured their social worlds to sustain wellbeing amid gaps between aspirations and reality. Their strategies reflect *pragmatic resilience* - neither passive assimilation nor resistance, but a dynamic recalibration of identity and connection. Participants with linguistic/cultural capital leveraged dual identities to access resources while preserving heritage, or mediated between generations, with descendants facilitating Swedish connections. This aligns with Berry's acculturation model (6), where integration (retaining heritage + adopting host culture) correlates with higher wellbeing. In contrast, participants with constrained fluidity cultivated alternative belonging by community solidarity. Arabic speakers transformed their church into a cultural hub, offering language classes and intergenerational activities. Chilean elders invented traditions through a volunteer-run radio station, broadcasting news and music in Spanish and mobilizing crises support. Chinese speakers accepted isolation but proposed self-help solutions (e.g., chat groups). All these created a parallel public sphere countering Swedish exclusion. Crucially, participants' resilience strategies - from ethnic community-building to solitude - were not retreats from belonging but *workarounds* for understanding's absence. Participants also recalibrated expectations to align with reality. While some Arabic speakers normalized Swedish reserve, diffusing resentment while acknowledging limits, some Chinese speakers attributed exclusion to perceived unbridgeable cultural distance, framing their language and traditions as uniquely opaque. While Arabic speakers externalized exclusion as a Swedish cultural trait, Chinese participants internalized it as a Chinese characteristic, reflecting divergent coping mechanisms under similar marginalization. Finally, many participants relinquished expectations of cultural transmission, instead valuing descendants' integration as a legacy of sacrifice.

Conclusion and implications

This study, grounded in Nordenfelt's theory of wellbeing and Hall's cultural frameworks, reveals that older migrants' social belonging in Sweden hinges on mutual understanding - a reciprocal process often disrupted by asymmetries in cultural legibility. Our findings indicate that belonging is multilayered. Finnish speakers'

long-term residence and minority status facilitated structural and relational belonging, while Arabic and Chinese speakers faced belonging limbo - legible to systems but illegible in everyday interactions. Participants´ resilience strategies varied by cultural capital: while bicultural fluency (Finnish/Chilean) enabled dual belonging, insular solidarity (Arabic) countered exclusion through ethnic institutions, self-reliance (Chinese) emerged where other resources were scarce. These reflect Bourdieu's social capital disparities, underscoring how structural barriers shape agency. Our findings advocate understanding as policy imperative. Ultimately, the study reframes aging migrants' wellbeing as a negotiation of belonging - where success depends not just on migrants' adaptability but also on Sweden's willingness to see them fully.

Methodological reflections

Reflexivity, a key strategy for ensuring credibility in qualitative research (45), was critical given the first author's dual role as an immigrant and geriatric nurse. Her "insider" status may have facilitated recruitment and trust, enabling participants to share openly, but also risked shaping findings through personal preconceptions. Team discussions mitigated this by broadening interpretive perspectives.

Limitations and future directions

While this study captures diverse experiences, its recruitment through cultural/religious organizations may bias the sample toward socially engaged individuals. Future research should include isolated populations and explore intersections of gender, class, and migration history. Longitudinal designs could track evolving wellbeing across immigrational contexts.

Data availability statement

The datasets presented in this article are not readily available because anonymized data might be shared on reasonable request. Requests to access the datasets should be directed to ingrid.hellstrom@mchs.se.

Ethics statement

The studies involving humans were approved by the Swedish Ethical Review Authority (Dnr: 2023-04950-01). The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

AZ: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Validation, Writing – original draft, Writing – review & editing. ÅL: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Supervision, Validation, Writing – original draft, Writing – review & editing. SR: Conceptualization, Data curation, Formal analysis, Funding acquisition, Methodology, Project administration, Supervision, Validation, Writing – original draft, Writing – review & editing. IH: Conceptualization, Data curation, Formal analysis, Funding acquisition, Methodology, Project administration, Supervision, Validation, Writing – original draft, Writing – review & editing.

Funding

The author(s) declare that financial support was received for the research and/or publication of this article. AZ received funding from Local Health Care Eastern Östergötland, Sweden.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The authors declare that Gen AI was used in the creation of this manuscript. Generative AI (ChatGPT and DeepSeekAI) was only used occasionally as a support in proofreading for American English.

Any alternative text (alt text) provided alongside figures in this article has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

Publisher's note

References

1. Statistics Sweden (2025). Swedish and foreign-born population by region, age, and sex. Year 2000–2024. Available online at: https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__BE__BE0101__BE0101E/InrUtrFoddaRegAlKon/ (accessed July 10, 2025).

2. Torres S, Magnusson F. Elderly care in the age of migration [Äldrevård och omsorg i migrationens tidevarv]. Lund: Studentlitteratur (2021).

3. Chen X, Talwar D, Ji Q. Social network and social support among elderly Asian immigrants in the United States. *Global J. Anthropol. Res.* (2015) 2:15–22. doi: 10.15379/2410-2806.2015.02.02.03

4. Wu Z, Penning M. Immigration and loneliness in later life. *Ageing Soc.* (2015) 35:64–95. doi: 10.1017/S0144686X13000470

5. Zhao IY, Holroyd E, Garrett N, Wright-St Clair VA, Neville S. Chinese late-life immigrants' loneliness and social isolation in host countries: an integrative review. *J Clin Nurs*. (2023) 32:1615–24. doi: 10.1111/jocn.16134

6. Berry JW. Immigration, acculturation, and adaptation. *Appl Psychol*. (1997) 46:5–34. doi: 10.1111/j.1464-0597.1997.tb01087.x

7. Cornwell B, Laumann EO, Schumm LP. The social connectedness of older adults: a national profile. *Am Sociol Rev*. (2008) 73:185–203.

8. Karl U, Torres S. Ageing in contexts of migration. London: Routledge (2019).

9. Wu J, Li Y, Chao Q. An emotional support model in aging families: linking interaction patterns to positive mental health through social activity engagement and aging attitudes. *Front Public Health*. (2025) 13:1531110. doi: 10.3389/fpubh.2025.1531110

10. Treas J, Mazumdar S. Older people in America's immigrant families: dilemmas of dependence, integration, and isolation. *J Aging Stud*. (2002) 16:243–58. doi: 10.1016/S0890-4065(02)00048-8

11. Fokkema T, Naderi R. Differences in late-life loneliness: a comparison between Turkish and native-born older adults in Germany. *Eur J Ageing*. (2013) 10:289–300. doi: 10.1007/s10433-013-0267-7

12. Bourdieu P. The forms of capital In: JG Richardson, editor. Handbook of theory and research for the sociology of education. New York, NY: Greenwood Press (1986). 241–58.

13. Maslow AH. A theory of human motivation. *Psychol Rev*. (1943) 50:370–96. doi: 10.1037/h0054346

14. Ryan RM, Deci EL. Self-determination theory: Basic psychological needs in motivation, development, and wellness. New York, NY: Guilford Press (2017).

15. Erikson EH. Identity and the life cycle. New York, NY: WW Norton (1994).

16. Carstensen LL. Social and emotional patterns in adulthood: support for socioemotional selectivity theory. *Psychol Aging*. (1992) 7:331–8. doi: 10.1037/0882-7974.7.3.331

17. Bowlby J. A secure base: Parent-child attachment and healthy human development. New York, NY: Basic Books (1988).

18. Holt-Lunstad J, Smith TB, Layton JB. Social relationships and mortality risk: a meta-analytic review. *PLoS Med*. (2010) 7:316. doi: 10.1371/journal.pmed.1000316

19. Umberson D, Montez JK. Social relationships and health: a flashpoint for health policy. *J Health Soc Behav*. (2010) 51:S54–66. doi: 10.1177/0022146510383501

20. World Health Organization (WHO). (2021). Social isolation and loneliness among older people: advocacy brief. Available online at: https://www.who.int/publications/i/item/9789240030749 (accessed July 10, 2025).

21. Nordenfelt L. On the nature of health: An action-theoretic approach. *2nd* ed. Dordrecht: Kluwer Academic (1995).

22. Hall S. The work of representation In: S Hall, J Evans and S Nixon, editors. Representation. *2nd* ed. London: SAGE (2013). 1–59.

23. Vygotsky LS. Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press (1978).

24. Ajrouch KJ, Blandon AY, Antonucci TC. Social networks among men and women: the effects of age and socioeconomic status. *J Gerontol Series B*. (2005) 60:S311–7. doi: 10.1093/geronb/60.6.s311

25. Ajrouch KJ, Antonucci TC, Janevic MR. Social networks among blacks and whites: the interaction between race and age. *J Gerontol Ser B Psychol Sci Soc Sci*. (2001) 56:S112–8. doi: 10.1093/geronb/56.2.s112

26. Fiori KL, Consedine NS, Magai C. Ethnic differences in patterns of social exchange among older adults: the role of resource context. *Ageing Soc*. (2008) 28:495–524. doi: 10.1017/S0144686X07006940

27. Fiori KL, Consedine NS, Magai C. Late life attachment in context: patterns of relating among men and women from seven ethnic groups. *J Cross Cult Gerontol*. (2009) 24:121–41. doi: 10.1007/s10823-008-9078-2

28. MacInnes H, Dunér A, Gustafsson S, Lindahl L. Older migrants' perceptions of places to meet: insights for social work practice. *PLoS One*. (2023) 18:e0292730. doi: 10.1371/journal.pone.0292730

29. Magnusson F, Kiwi M. Integration against ill-health: older Iranian women in Malmö [Integration mot ohälsa: äldre iranska kvinnor i Malmö]. *Soc Med Tidskr*. (2011) 88:225–32. Available online at: https://publicera.kb.se/smt/article/view/43835

30. Johansson C, Asztalos Morell I, Lindberg D, Gustafsson LK. Spotting good ageing: using welfare theory of health to frame the agency of older adults with immigrant backgrounds to attain good ageing. *Nord Soc Work Res*. (2021) 13:21–35. doi: 10.1080/2156857X.2021.1902377

31. Glaser BG. Theoretical sensitivity: Advances in the methodology of grounded theory. Mill Valley: Sociology Press (1978).

32. World Values Survey (2023). WVS cultural map 2023. Available online at: https://www.worldvaluessurvey.org/WVSNewsShow.jsp?ID=467 (accessed July 10, 2025).

33. Campbell L, Poser WJ. Language classification: History and method. Cambridge, MA: Cambridge University Press (2008).

34. Krueger RA, Casey MA. Focus groups: A practical guide for applied research. *3rd* ed. Thousand Oaks, CA: SAGE (2000).

35. Morgan DL. Focus group kit volume 1: Focus group guidebook. Thousand Oaks, CA: SAGE (1998).

36. Morgan DL. Focus groups as qualitative research. *2nd* ed. Thousand Oaks: SAGE (1997).

37. Cote-Arsenault D, Morrison-Beedy D. Practical advice for planning and conducting focus groups. *Nurs Res*. (1999) 48:280–3. doi: 10.1097/00006199-199909000-00009

38. Krueger RA. Focus groups: A practical guide for applied research. *2nd* ed. Thousand Oaks, CA: SAGE (1994).

39. Polit DF, Beck CT. Nursing research: Generating and assessing evidence for nursing practice. *11th* ed. Philadelphia, PA: Wolters Kluwer (2020).

40. Wuest J. Negotiating with helping systems: an example of grounded theory evolving through emergent fit. *Qual Health Res*. (2000) 10:51–70. doi: 10.1177/104973200129118246

41. Creswell JW. Qualitative inquiry and research design: Choosing among five approaches. Thousand Oaks, CA: SAGE (1998).

42. Silverman D. Interpreting qualitative data: Methods for analyzing talk, text and interaction. *3rd* ed. London: SAGE (2006).

43. Ager A, Strang A. Understanding integration: a conceptual framework. *J Refug Stud*. (2008) 21:166–91. doi: 10.1093/jrs/fen016

44. Ålund A, Schierup C-U. Paradoxes of multiculturalism: Essays on Swedish society. Aldershot: Avebury (1991).

45. Alvesson M, Sköldberg K. Reflexive methodology: New vistas for qualitative research. London: SAGE (2000).

frontiers | Frontiers in Public Health

TYPE Original Research
PUBLISHED 26 August 2025
DOI 10.3389/fpubh.2025.1610733

OPEN ACCESS

EDITED BY
Allison Squires,
New York University, United States

REVIEWED BY
Rita Phillips,
University of Klagenfurt, Austria
Márton Bagyura,
University of Pécs, Hungary
Emeka Duru,
The University of Utah, United States

*CORRESPONDENCE
William Suarez-Gomez
✉ william.suareziigomez@lehman.cuny.edu

RECEIVED 16 April 2025
ACCEPTED 23 July 2025
PUBLISHED 26 August 2025

CITATION
Muñoz-Alicea A and Suarez-Gomez W (2025) Exploring mental health implications of informal caregiving for the older adult within the Hispanic community: an in-depth cross-cultural analysis of depression symptoms. *Front. Public Health* 13:1610733. doi: 10.3389/fpubh.2025.1610733

Exploring mental health implications of informal caregiving for the older adult within the Hispanic community: an in-depth cross-cultural analysis of depression symptoms

Angel Muñoz-Alicea [1] and William Suarez-Gomez [2*]

[1]Department of Psychology, College of Behavioral Sciences and Community Affairs, Pontifical Catholic University of Puerto Rico, Ponce, Puerto Rico, [2]Health Equity, Administration & Technology Department, School of Health Science, Health Services and Nursing, Lehman College, City University of New York, Bronx, NY, United States

This study contributes to a deeper understanding of depression among Hispanic informal caregivers of older adults. As aging populations grow across Latin America and the U.S., it is essential to examine how sociocultural and demographic variables influence caregivers' mental health. A non-experimental, cross-cultural design quantitative research was conducted in Colombia, Mexico, and Puerto Rico-countries with strong representation in the U.S. Using the Psych Data platform and the Patient Health Questionnaire-9 (PHQ-9), a total of 1,194 informal caregivers were assessed for self-rated depressive symptoms and perceived social support. Multivariate statistical analyses were conducted using linear regression analyses and *t*-test to investigate the correlations between the sociodemographic profiles and depression symptoms of caregivers for older adults in primary care by country. The findings highlight associations between informal caregiving and gender, depression, age, education, employment, spirituality, and familism. Results showed that employment was positively associated with depressive symptoms ($B = 1.452$, $p < 0.01$), suggesting that work may add strain rather than serve as a buffer. Higher educational attainment appeared protective, potentially by improving access to mental health resources and coping strategies. Unexpectedly, spirituality also emerged as a significant predictor of increased depressive symptoms, challenging previous research that frames spirituality as protective. Considering the escalating population of minority older adults facing health decline, it is necessary to enhance comprehension of how these multidimensional variables influence caregiving. These findings underscore the need to tailor ethnocultural interventions to address caregiver burden and mental health disparities in underserved populations.

KEYWORDS

informal caregivers, older adults, Hispanic, cross-cultural design, depression, spirituality, familism

Introduction

The United States and several Caribbean and Latin American nations are facing growing strain on their national budgets and health services due to the increasing demand for long-term support for their aging populations (1–4). In the United States (US), Mexico, Puerto Rico, and Colombia, the population age 65 and over is 18, 8.6, 23.4, and 9.4%, respectively (5, 6), and many of them prefer to remain at home for as long as possible.

Empowering the older adult to remain in their homes promotes active lifestyles and preserves their independence, but it may also require family support and a culturally competent approach (7, 8). Many people will take on the role of a caregiver at some point in their lives. By gaining a better understanding of the factors involved in family caregiving and the effects on caregivers, we can improve support initiatives and promote greater equity (9). Family and/or informal caregivers for the older adult remain an underrecognized yet essential support system for individuals with cognitive impairments or functional limitations who remain at home. However, unpaid informal family caregivers serve as the primary support system for long-term care within individuals' residences, particularly among middle-aged and older adult individuals who provide care for their family members (10). An estimated one in five citizens in the US (1), one in six in Mexico (11) and Puerto Rico (12, 13), and one in 10 citizens in Colombia (14) have assumed a caregiver's role yearly. The purpose of this non-experimental, cross-cultural study is to enhance comprehension of multidimensional factors that impact depression symptoms among caregivers for the elderly in three Hispanic communities linked to migrants in the US.

Caregiving, when viewed from an anthropological perspective, is shaped by cultural constructs within society and influenced by biological, historical, and other macro and microsocial factors (15). Caregivers' motivations and willingness to care are underpinned by multidimensional factors such as religious and philosophical beliefs, a sense of duty, and the desire to reciprocate play significant roles in shaping the bonds, values, and beliefs associated with caregiving (2, 15, 16). For instance, the principle of honoring your parent rooted in Jewish-Christian-Catholic values, has been a foundational aspect of Hispanic families, reflected in some legal codes and transmitted across generations within the wider society.

However, the individual in the caregiving role focuses on immediate tasks, guided by representations that validate both the successes and failures of caregiving in a social context (15). As a result, most of the family caregivers face an elevated risk of burn-out, loneliness, anxiety, and depression due to the stress inherent in caring for a loved one (15–17). This risk may vary based on a range of factors.

In this context, this study investigates the relationship between the sociodemographic characteristics of informal caregivers and their levels of depressive symptoms, examines significant differences, and analyzes the extent to which psychosocial factors predict depressive symptoms in a sample from three Hispanic countries: Colombia, Mexico and Puerto Rico. The study provides additional insight into the impact of care-related depression among Hispanic caregivers in their country of origin. However, it is essential to recognize that how individuals address and cope with depression may differ significantly across diverse cultural contexts (15–18).

This study was guided by two complementary theoretical models. The first, the family ecological structural-systems model, conceptualizes caregiving across three interconnected levels: the microsystem (caregiver and immediate family), the mesosystem (community interactions and support), and the macrosystem (structural conditions influencing caregiving). In parallel, also guided by the model proposed by Falzarano et al. (19) emphasizes the role of familism and social support in shaping caregiver interventions, underscoring the need for culturally responsive strategies that address the specific needs of diverse ethnic groups.

Literature review

In the US literature, studies on family caregiver interventions have predominantly included participants who are white, non-Hispanic, and highly educated. This demographic restricts the applicability of the findings to a broader population. Hispanics in the US, in general, have had the highest life expectancy at birth of all groups (81.8 years), despite facing a disadvantaged socioeconomic profile (20–22). Among Hispanic migrant subgroups in the US, Puerto Ricans exhibit the highest mortality rate at 605.7 deaths per 100,000 individuals, followed by Mexicans at 523.7, Cubans at 489.1, and Colombians at 390 (23). Notably, all these rates are lower than those of non-Hispanic Caucasians, who have a mortality rate of 784, and non-Hispanic Black people, whose rate stands at 924 (24). These rates highlight the need to explore alternative methods of care and the challenge of understanding the macro- and micro sociocultural factors that contribute to serving these communities.

Cultural norms and caregiving

The personal ethnocultural and life experiences shape caregivers' perceptions, actions, and social approaches. For instance, in Hispanic cultures, familism often is linked to specific gender roles and those who do not fully embrace these values may experience higher levels of depression and anxiety (19, 25). Men's roles are typically seen as providers, protectors, emotionally controlled, and strength, while caregiving is often viewed as less relevant to their roles (26, 27). However, the data from Latino/Hispanic caregivers in the US discussed by Whitney et al. (28) identified them as male, high school diploma, being from Generation X, and caring for a parent or stepparent. The Hispanic women's role, in contrast, is expected to be as the nurturer, "*the self-sacrificing mother*" and the moral anchors within the family, which is described as Marianism (25, 29). Matriarchal structures also play a significant role, with mothers and grandmothers providing essential emotional support. Although traditionally assigned to women, caregivers must navigate the challenges of social expectations. Moreover, caregivers often appear to be divinely chosen, with God serving as a source of strength during challenging times when resilience is needed to overcome adversity (27, 30).

General studies of Latin America estimate that 37% of men and 63% of women spend over 60% of their working hours on unpaid care activities for infants and older adults (31). In Mexico, for instance, women account for 71% of care hours for individuals over 60 (32) whilst in Colombia feminization and social segregation are the main two adjective of their older adult population (33). In Puerto Rico, caregiving patterns are similar, with women over 65 often facing greater vulnerability due to limited participation in the formal labor market and economic dependency. Nevertheless, it can be asserted that within these societies, the role of caregiving is developed through the ongoing observation of the caregiving behaviors exhibited by close relatives.

Family plays a pivotal role in caregiving. Among the US white-non-Hispanic population, caregivers often identify themselves as "spouses/partners, children, siblings, or friends" of the care recipient rather than simply as "caregivers." In some instances, within the communities of non-Hispanic Black people and Hispanic people, it is not uncommon for extended family members to take on caregiving roles. Familism, which is more common among non-Hispanic Black people and Hispanic communities, is a positive cultural value that highlights the importance of collectivism and close-knit family relationships (19, 34). McCleary and Blain (35) have shown that individuals with more traditional beliefs may assume their caregiving role out of obligation, which can exacerbate feelings of role captivity and distress. Tran et al. (36) posit that ethnocultural values may impact the perceived caregiving experience, burdens, changes in relationships with care recipients, and support. It is understood that familism varies based on the caregiver's relationship to the care recipient and its impact on psychosocial functioning (37). However, while *familism* can provide a robust informal support system, paradoxically may contribute to caregiver burden by creating strong obligations and deterring the utilization of external resources (19).

Self-efficacy, regarded as a cultural value, may be construed as originating from internalized expectations and beliefs (16). For instance, "personalization" among Latino caregiving dynamics may relate to genuine rapport, trustful bounding, which in generally is linked to reservations about including non-family members in care, respect for elders, and a collectivist approach (38, 39). While these values promote belonging and interdependence, they can also create stereotypes and stigmas around mental health.

Racial and ethnic variables play a role in shaping individuals' perceptions and evaluations of contextual elements. These factors, in turn, exert diverse influences on stress and coping mechanisms, with eventual impacts on caregiver outcomes be they positive and/or negative (19, 36). Peer-reviewed publications on caregivers' profiles are relatively scarce, and even more uncommon are cross-cultural studies contrasting Hispanic family caregivers' profiles. A range of valuable publications, predominantly in English, has explored this topic through a "one-size-fits-all" lens (39–42). Yet, cultural norms surrounding family obligation, familism, and ethnicity influence motivations for informal care, although the underlying factors remain unclear (16, 17, 29).

While it is recognized that current discussions and immigration policies in the US may have reinforced some stereotypes about the Hispanic community, it is important to acknowledge the rising population of ethnocultural minority older adults who are experiencing health challenges (43). This underscores the necessity for a deeper understanding of how cultural factors can affect and enhance caregiving. In the US, Mexicans, Puerto Ricans, and Colombians are among the top five largest populations in the Hispanic diaspora, but their cultural background and migratory status are not the same. In general, the literature is limited in exploring how individual and collective identity issues, along with associated emotions, influence the distribution of caregiving tasks. It overlooks the complexity of care decisions and their relationship to feelings and behaviors that are regarded as "appropriate" according to social norms of the nation (44). However, the literature also highlights that culturally adapted or linguistically congruent tools facilitate a better understanding of a phenomenon and may ultimately lead to better strategies for educating, training, or prompting groups in need, thus enhancing their skills to address their own challenges (45–47).

Psychological stressors to shape

Numerous studies indicate that caregivers frequently experience poorer health outcomes compared to non-caregivers (48). The caregiver's dedication and bond with the older adult lead to a burden of suffering from the adult's deterioration and their own emotional pain (49). Based on the AARP report "Caregiving in the United States" 29% of family members involved in high-intensity caregiving reported experiencing significant physical strain, while 49% reported notable emotional strain (40). Older adults with notable prevalence of depression, ranging from 5 to 30%, have significant effects, increasing the caregiver's burden (50). During the COVID-19 pandemic, Hurtado-Vega (51) noted that nearly 40% of Mexicans over the age of 60 with dependency conditions received care from informal caregivers. Precisely, Carrillo-Cervantes et al. indicate that Mexican caregivers experienced an additional impact on their own mental health, predominantly facing anxiety (27%) and a clinical concern with depression (14.9%), while a significant number (66.2%) experienced profound loneliness. These authors also found that psychosocial factors, the ages of caregivers and care recipients, and the duration of care accounted for 36% of the variance in role adoption, with loneliness identified as a significant predictor (52).

Alonso-Rodriguez et al. found that Colombian caregivers often experience anxiety due to the extensive responsibilities and exhaustion associated with caregiving. They noted that this anxiety is also connected to a lack of skills and limited access to resources needed to effectively manage these challenges (53). However, once caregivers receive training, they can develop effective decision-making skills and find meaning in their experiences. Training helps them cultivate coping strategies that reduce their anxiety levels (45). Increased knowledge and skills in caregiving enable caregivers to manage adversity more effectively and adopt active coping strategies, leading to reduced stress (54).

The interplay of sociocultural factors

Family systems, race, gender, income, religious affiliation, and culture may raise challenges when there is significant interdependence among the care recipient, live-in caregiver, and family support, as each relies on the others for their wellbeing (15, 48, 55–58). Family caregivers encounter ethical dilemmas arising from conflicting loyalties to the older care recipient and their own wellbeing (59). Caregivers may experience significant guilt or shame when expressing negative feelings or concerns about caring for the elderly (15, 16, 29). However, communities that are more socially cohesive may have greater trust in helping one another, which could be influenced by the type of living area—rural vs. urban—as well as local traditions (60). Ignoring these factors may harm the relationship between the caregiver and the care recipient, leading to less favorable outcomes (16).

Social support may reduce burden and depression, while warm and supportive family relationships predict positive caregiving

aspects. Research indicates that certain caregivers may experience higher levels of burden compared to others. For instance, those in roles with more intensive care responsibilities, including managing challenging behaviors in addition to assisting with daily activities, may experience heightened levels of burden and depression (19). The literature indicates that the health outcomes of caregivers are significantly influenced by race and gender (61). The age of the caregiver is also linked to their feeling of loneliness, which may correlate with depression (62). Schulz et al. (4) highlighted that the caregiving intensity (defined by the number of hours dedicated to caregiving per week or month), family ties (particularly among wives), and cohabitation with the care recipient serve as relatively robust indicators of negative psychological repercussions. Kellner et al. (63) found that social embarrassment significantly influences caregiver depression, with consistent effects across different cultural groups (64). These variables emphasize the critical importance of addressing disparities to ensure equitable care for all.

Another critical aspect to consider is that many older adults prefer to receive care from family members. This trend has resulted in increased responsibilities for family caregivers and presents significant challenges for healthcare institutions. To understand the differences in perceptions, we focused on exploring the caregiving role embedded in the cultural roots of their country of birth. Considering the escalating ethnocultural population of minority older adults facing health decline, it is necessary to enhance comprehension of how cultural factors impact the caregiving process.

Materials and methods

This study employed a quantitative methodology with an exploratory, descriptive-correlational design, and was conducted in a sample from three Hispanic countries linked to migrants in the US. Specifically, the research was conducted as a non-experimental, cross-sectional study, meaning the variables were not manipulated and were measured at a single point in time.

During the sample selection phase, no official registry or database was available to determine the total number of informal caregivers in the participating countries. Consequently, calculating a statistically representative sample size was not feasible. Due to the challenges in accessing informal caregivers—particularly related to time constraints—a non-probability, convenience sampling method was used. This approach involves selecting participants based on predefined criteria and availability, and although it is commonly used in exploratory research, it limits the generalizability of findings to the broader population. The participants were recruited through collaborative efforts involving four academic institutions.

To be eligible for this study, caregivers had to be caring for someone who was not institutionalized. In addition, they had to meet inclusion criteria such as: being of legal age in their country of residence, providing care or support to at least one person aged 60 or older, not receiving a salary for their caregiving duties, being literate and able to use an electronic device (computer, tablet, or smartphone), and voluntarily agreeing to participate. Exclusion criteria included the presence of severe mental health conditions that could impair the participant's ability to understand or complete the study.

Participants

This research study included a total of 1,194 caregivers for older-adult individuals from Mexico (51%), Puerto Rico (32.3%), and Colombia (16.7%). Caregivers were identified as a family member—either a spouse, adult child, sibling, in-law, cousin, nephew or niece or close friend—who provided most of the day–to–day care for the cognitively or physically impaired individual. A variety of methods were employed to recruit participants for the study. Family caregivers of older adult individuals were invited and/or contacted through support groups, parishes or churches, care centers and/or daytime (respire) programs. In addition, in some areas included in the study, the community leaders were invited to disseminate the promotional poster. The invitations to participate were distributed in the municipalities or communities included, also using telephone messaging (SMS), WhatsApp groups, and/or contacts. Although the study was not experimental in nature, the sample distribution from Puerto Rico and Mexico effectively included participants from almost every region of their respective national territories, providing a comprehensive overview of the populations. Individuals from 28 out of the 32 states of the United States of Mexico participated actively and, in Puerto Rico, residents from all the 78 municipalities participated. In contrast, the sample distribution in Colombia was more limited. Surveyors focused on only 16 out of the country's 32 administrative geographic divisions, which may not fully reflect the Colombia's diversity and various demographic groups.

Ethical considerations

Ethical approval for this study was obtained from the Institutional Review Board (IRB) in Puerto Rico and from the Research Ethics Committee in Mexico; in Colombia, ethical approval was not required. All participants provided informed consent before participating in the survey, which was conducted electronically, using the digital platform PsychData (65). To uphold privacy, security, and confidentiality, the data was devoid of any information that could potentially identify the participants, and IP addresses were not collected.

Secondary data and scope of analysis

This study is a secondary analysis of data originally collected for a previous project (66). The current research builds on the original findings by narrowing the focus to the psychosocial factors such as educational level, employment, spirituality, and social support as protective factors against depressive symptomatology in informal caregivers. Thus, offering new insights and interpretations not addressed in the earlier publication. Only participants who completed the full Patient Health Questionnaire (PHQ-9) were included in this analysis, thereby increasing the sample size.

Questionnaires

The study consisted of a four-part self-assessment digital questionnaire with an estimated completion time of 20 min (65). The first part was an initial demographic assessment about the cognitively or physically impaired older adult person (caretaker) based on a standardized set of questions, to identify the needs and level of dependency on the primary informal/family caregiver. This part of the instrument also included items that build the caregivers' profile by country, including gender, age, marital status, number of children, employment, income, etc. Their situation and the relationship to the care recipient were assessed. The remaining sections of the instrument included a structured and standardized set of items designed to assess symptoms of mental disorders, specifically using the Patient Health Questionnaire-9 (PHQ-9) to evaluate depressive symptoms. Caregivers were asked to self-assess and to rate their health status. In this paper, we focus on signs of depression in the primary informal caregiver.

Tools and validation

The research was carried out in Spanish, with careful attention to idiomatic expressions and cultural differences that could impact the validity of intergroup comparisons. Given that, in some cases, a verbatim reproduction that precisely mirrors the original document, even in groups with the same main language, may not be the most culturally suitable method (67). Prior to distribution, the instruments were piloted with focus groups comprised of students in Mexico and Colombia. This pilot study sought to evaluate the clarity of the questionnaire, ensuring that the questions were precisely defined and easily understandable by the population. It is important to acknowledge that the participants in the focus groups had some differences compared to the characteristics of the intended study sample.

Patient health questionnaire-9 (PHQ-9)

The official Spanish version used of the Patient Health Questionnaire-9 (PHQ-9), was translated and validated by Pfizer Inc. This culturally and linguistically adapted version has been widely employed and psychometrically validated in clinical and community settings across Spanish-speaking populations, including Colombia, Mexico, and Puerto Rico. Across these contexts, the PHQ-9 has consistently demonstrated strong internal consistency, with Cronbach's alpha coefficients of 0.80 or higher, and maintains semantic equivalence with the original English version, indicating strong reliability (68–71). The PHQ-9 is a nine-item self-assessment validated instrument that asks participants to rate the frequency of symptoms they've experienced over the past 2 weeks (68–71). The items are based on a Likert scale. The total score ranges from 0 to 27, with higher scores indicating more severe depressive symptoms (PHQ-9 Score: between 0 to 4 = no depression symptoms; 5–9 = mild; 10–14 = moderate; 15–19 = moderately-severe depression; and the severe score of depression from 20 to 27).

Statistical approach

Statistical analyses were conducted using SPSS version 24. Descriptive statistics were used to summarize the sociodemographic characteristics of caregivers and caretaker. Pearson correlation analyses were performed to examine the relationships between caregiving-related variables, age, gender, and depressive symptoms. Independent samples *t*-tests were conducted to assess differences in depressive symptomatology according to employment status. Finally, a multiple linear regression analysis was carried out to evaluate whether spirituality, age, country, educational attainment, employment status and receives support for caregiving tasks function as protective factors against depressive symptoms. The results of statistical tests were considered statistically significant at $p < 0.05$.

Results

A total of 1,194 caregivers from Mexico (51.1%), Puerto Rico (32.0%), and Colombia (16.7%) participated in the study. Table 1 presents the demographic characteristics of the study sample, the majority of participants were women (74.3%), reflecting established gender norms in informal caregiving across these cultural contexts. Puerto Rico exhibited the highest proportion of female (84.6%) and filial caregivers (70.2%), suggesting the influence of specific cultural factors. Differences among caregivers in Puerto Rico, Mexico, and Colombia may reflect variations in cultural norms, socioeconomic factors, and healthcare systems. Puerto Rico might offer comparatively greater access to formal support, while Mexico and Colombia could face more challenges due to limited resources and fragmented services.

The majority of caregivers (82.6%) were under the age of 60, indicating that caregiving responsibilities are largely assumed by middle-aged adults who may concurrently manage professional and personal obligations. All participants were actively involved in caregiving tasks, supporting at least one (71.5%) or more older adults aged 60 years or older. A majority (74.2%) had provided care for two or more consecutive years. Regarding the setting of care, 61.5% of caregivers provided care in the senior's residence, while 35.2% did so in their own homes. In terms of weekly time investment, 50.2% of caregivers reported providing care for 17 h or more. This level of commitment was highest among caregivers in Colombia (64.8%), followed by Puerto Rico (54.0%) and Mexico (44.0%).

Care recipients were described as requiring assistance most of the time by 44% of caregivers. Despite the intensity of care required, 91.8% of participants reported receiving no financial remuneration for their caregiving activities. Furthermore, 81.8% indicated they lacked formal training in elder care, pointing to a need for structured educational and support programs. Although more than half of caregivers (58.4%) received some assistance with caregiving tasks, nearly 71% reported not having access to psychological support after assuming the caregiving role.

Most caregivers were employed (62.8%), with the highest employment rate observed in Mexico (68.4%). Full-time employment was particularly common in Puerto Rico (72.6%). The primary source of income for caregivers was salaried work

TABLE 1 Demographic characteristics of the study sample (informal caregivers).

Characteristics	Total		Colombia		Mexico		Puerto Rico	
	N	%	*n*	%	*n*	%	*n*	%
Sample	1,194	100	200	16.7	611	51.1	383	32.0
Gender								
Female	887	74.3	155	77.5	408	66.8	324	84.6
Male	307	25.7	45	22.5	203	33.2	59	15.4
Age								
18–20	18	1.5	3	1.5	15	2.5	0	0
21–24	40	3.4	11	5.5	18	3	11	2.9
25–34	162	13.6	25	12.5	84	13.8	53	13.8
35–44	231	19.4	32	16	127	20.8	72	18.8
45–54	361	30.2	61	30.5	193	31.6	107	27.9
55–59	174	14.6	23	11.5	82	13.4	69	18
60–64	103	8.6	22	11	33	5.4	48	12.5
65–74	80	6.7	16	8	47	7.7	17	4.4
75+	21	1.8	7	3.5	11	1.8	3	0.8
Marital status								
Single	384	32.2	71	35.5	206	33.7	107	27.9
Married	407	41.6	63	31.5	275	45.0	159	41.5
Widowed	50	4.2	8	4.0	33	5.4	9	2.3
Divorced	117	9.8	9	4.5	52	8.5	56	14.6
Separated	50	4.2	18	9.0	24	3.9	8	2.1
Live together	83	7.0	28	14.0	18	2.9	37	9.7
Never married	10	0.8	0	0	3	0.5	7	1.8
Formal knowledge on older adults' caregiver								
Yes	217	18.2	57	28.5	95	15.5	65	17.0
No	977	81.8	143	71.5	516	84.5	318	83.0
Remuneration or family economy support for older adult caring								
No	1,095	91.7	189	94.5	539	88.2	367	95.8
Yes, receives financial support from family	99	8.3	11	5.5	72	11.8	16	4.2
Family of older adult								
Yes	1,107	92.7	177	88.5	562	92.0	368	96.1
No	87	7.3	23	11.5	49	8.0	15	3.9
Relationship with older adult								
My parents	764	64.0	116	58.0	379	62.0	269	70.2
My son	3	0.3	3	1.5	–		–	
My grandparent	149	12.5	23	11.5	86	14.1	40	10.4
My uncle/aunt	36	3.0	3	1.5	24	3.9	9	2.3
My brother/sister	39	3.3	8	4.0	23	3.8	8	2.1
My spouse	65	5.4	14	7.0	33	5.4	18	4.7
Other	49	7.5	9	4.5	17	2.8	23	6.0
Missing value			24	12.0	49	8.0	16	4.2

(Continued)

TABLE 1 (Continued)

Characteristics	Total		Colombia		Mexico		Puerto Rico	
	N	%	*n*	%	*n*	%	*n*	%
Receives support for caregiving tasks								
Yes	697	58.4	95	47.5	362	59.2	240	62.7
No	497	41.6	105	52.5	249	40.8	143	37.3
The caregiver has a job or employment								
Yes	750	62.8	120	60.0	418	68.4	212	55.4
No	444	37.2	84	42.0	193	31.6	171	44.6
Work schedule								
Full time	386	51.4	43	35.8	189	45.2	154	72.6
Part time	139	11.6	21	17.5	92	22.0	26	12.2
Flexible time	210	17.6	52	43.3	130	31.1	28	13.2
Missing value	15	1.3	4	3.3	7	1.6	4	1.8
Primary income								
Work	571	47.8	66	33.0	327	53.5	178	46.5
Self-work	172	14.4	40	20.0	100	16.4	32	8.4
Government assistance	73	6.1	17	8.5	29	4.7	27	7.0
Nutritional assistance	31	2.6	2	1.0	1	0.2	28	7.3
Family economic assistance	117	9.8	40	20.0	61	10.0	16	4.2
Other	230	19.3	35	17.5	93	15.2	102	26.6
Spirituality								
Yes	1,084	90.8	179	89.5	548	89.7	357	93.2
No	110	9.2	21	10.5	63	10.3	26	6.8

(47.8%), though self-employment (14.4%) and government or family assistance were also reported. In terms of educational attainment, caregivers from Puerto Rico reported the highest levels of education (84.6% with some level of post-secondary to doctoral education), followed by those from Mexico (64.4%) and Colombia (39.6%).

Spirituality emerged as an important personal resource, with 90.7% of respondents indicating that it played a significant role in their lives. Marital status data showed that 41.6% of caregivers were married, making it the most common status, although the majority were unmarried—an aspect that may influence the availability of spousal support. Taken together, the findings underscore the gendered nature of caregiving in these contexts, highlighting the prevalence of unpaid, middle-aged, female caregivers who are often immediate family members of the older adults they support.

Caregiver-reported characteristics of the older adults receiving care are summarized in the sample (Table 2). Most older adults were aged 75 or older (64.8%), with Puerto Rico showing the highest proportion in this age group (67.4%). In terms of functional support, 44.6% of care recipients required frequent assistance, particularly in Puerto Rico (49.6%). Occasional help was needed by 36.2%, with Mexico reporting the highest proportion in this category (38.0%). A smaller proportion (19.3%) required only supervision, most commonly in Colombia (21.0%).

Health status information was available for 945 respondents, as this section of the survey was optional. Among them, 56.6% of older adults had at least one chronic condition, with the highest prevalence observed in Puerto Rico (73.7%), followed by Mexico (63.7%). No data were collected in Colombia due to caregiver reluctance to disclose health information, which limits cross-national comparisons for this variable.

Among caregivers who reported receiving some form of support, the majority identified a family member as their primary source (74.1%). This was followed by support from a hired caregiver (25.3%) and, lastly, from their partner (12%; Table 3). It is important to note that participants were allowed to select more than one option, so these categories are not mutually exclusive. Additionally, sixteen caregivers selected the "Other" option, reporting support from various sources such as neighbors, the older adult's extended family, veteran services, nurses, church congregations, home care services, and domestic service personnel.

The PHQ-9 results revealed a high prevalence of depressive symptoms among caregivers (Table 4). Fatigue was the most frequently reported symptom, with 76.7% indicating low energy. Sleep disturbances (63.3%) and lack of interest or pleasure (46.3%) were also common. Nearly half (49.8%) reported appetite changes, and 13.5% acknowledged thoughts of self-harm—underscoring critical mental health risks in this population.

TABLE 2 Demographic characteristics of caretaker.

Characteristics	Total		Colombia		Mexico		Puerto Rico	
	N	%	*n*	%	*n*	%	*n*	%
Age								
60–74	414	34.7	71	35.5	218	35.7	125	32.6
≥75	774	64.8	125	62.5	391	64.0	258	67.4
Missing value	6	0.5	4	2.0	2	0.3	0	0
Support required by the older adult								
Only supervision	230	19.3	42	21.0	127	20.8	61	15.9
Sometimes help	432	36.2	68	34.0	232	38.0	132	34.5
Most time help	532	44.6	90	45.0	252	41.2	190	49.6
Diagnosed with chronic disease								
Yes	535	56.6	0		289	63.7	246	73.7
No	410	43.3	157	100	165	36.3	88	26.3

TABLE 3 Support received by caregivers of older adults.

Characteristics	Category	Number (n =)	Proportion (%)
Source of support	Family	517	74.1
	Spouse/partner	82	12.0
	Hired person	177	25.3
	Other	16	2.2

These findings reflect a significant burden of depressive symptomatology, with some caregivers experiencing persistent affective and somatic symptoms. The results of the PHQ-9 questionnaire indicate that, on average, caregivers reported symptoms of significant depression according to the instrument's interpretation. The most frequent symptoms were fatigue, insomnia, and changes in appetite. Suicidal thoughts were reported less frequently ($M = 0.21$), although their presence remains clinically relevant.

Country-specific patterns in depressive symptoms varied across the sample (Figure 1). In Colombia, 58.0% of the caregivers in our sample reported no loss of interest in daily activities, while 31.5% experienced symptoms on several days. Additionally, 7.5% had persistent symptoms for over half the days, and 3.0% reported a near-daily lack of interest. For suicidal ideation, 82.5% denied thoughts of self-harm, 12.5% reported such thoughts on several days, and 3.0% reported them nearly daily. In Mexico, 53.2% of respondents did not report anhedonia, while 40.7% experienced it several days a week; 6.1% reported it nearly daily. Regarding suicidal ideation, 85.8% denied such thoughts, 9.0% reported them on certain days, and 1.8% nearly daily. Among Puerto Rican caregivers, 52.2% reported no anhedonia, but 27.4% experienced it several days a week. Persistent symptoms were seen in 10.4% of participants, with 9.9% experiencing them almost daily. In this group, 89.8% denied suicidal thoughts, while 5.5% reported them on several days, and 2.6% nearly daily.

The most statistically significant correlations between depressive symptoms and caregiving-related factors are presented in Table 5. All associations reached significance at $p < 0.05$, with the majority surpassing the $p < 0.01$ threshold. Among the variables examined, self-harm thoughts exhibited a moderate positive correlation with depressive symptoms ($r = 0.511$, $p < 0.01$), indicating a meaningful association that reflects elevated psychological distress within this subgroup. Other factors showed weaker, though statistically significant, correlations. Specifically, caring for individuals with special needs ($r = 0.204$) and the amount of time dedicated to caregiving ($r = 0.191$) were both positively associated with depressive symptoms, suggesting a cumulative burden effect. Additional variables, such as being employed ($r = 0.112$), being a daughter ($r = 0.082$), or being a granddaughter ($r = 0.063$), demonstrated small but significant correlations, potentially reflecting the influence of socioeconomicvulnerability and role-based expectations on caregiver mental health.

In general, females in our sample have higher depression levels than males (Figure 2). The analysis of age-related variations in the sample identifies several notable outliers in depression levels. Overall, the findings indicate that females between the ages of 40 and 60 exhibit significantly higher levels of severe depression than their male counterparts. Additionally, males aged 30–40 appear more likely to experience moderate to moderately severe depressive symptoms. The observation that younger males may be more susceptible than females in this age group underscores the complex emotional landscape of caregiving. In this context, both age and gender may play pivotal roles in determining mental health outcomes.

Depression symptoms, analyzed by age and country, have consistently ranged from moderate to high levels (Figure 3). Among the populations studied, caregivers from Mexico and Puerto Rico exhibited the most severe depression levels. In comparison, Colombians reported a broader age range of participants experiencing moderate depression. Overall, across the three countries, individuals aged 40–60 consistently demonstrated the highest levels of depression.

TABLE 4 Distribution, means and standard deviation of responses to PHQ-9 depression scale.

Item	No		Some days		More than half the days		Nearly every day		Mean	Std Dev
	n	%	*n*	%	*n*	%	*n*	%		
1. Little interest or pleasure in doing things.	641	53.7	319	26.7	153	12.8	81	6.8	0.73	0.929
2. Feeling down, depressed, or hopeless.	549	46.0	396	33.2	162	13.6	87	7.3	0.82	0.925
3. Trouble falling or staying asleep or sleeping too much.	438	36.7	357	29.9	199	16.7	200	16.8	1.13	1.089
4. Feeling tired or having little energy.	278	23.3	446	37.4	271	22.7	199	16.7	1.33	1.010
5. Poor appetite or overeating.	599	50.2	297	24.9	169	14.2	129	10.8	0.86	1.027
6. Feeling bad about yourself or that you are a failure or have let yourself or your family down.	667	55.9	272	22.8	138	11.6	117	9.8	0.75	1.003
7. Trouble concentrating on things, such as reading the newspaper or watching television.	637	53.4	313	26.2	152	12.7	92	7.7	0.75	0.952
8. Moving or speaking so slowly that other people might have noticed? Or the opposite: being so fidgety or restless that you have been moving around a lot more than usual.	790	66.2	229	19.2	110	9.2	65	5.4	0.54	0.872
9. Thoughts that you would be better off dead or of hurting yourself in some way.	1,033	86.5	101	8.5	33	2.8	27	2.3	0.21	6.25

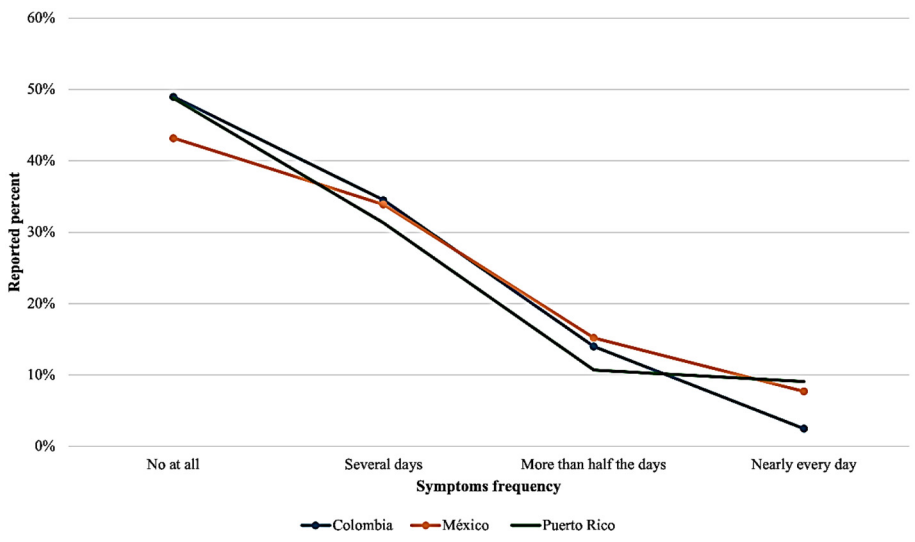


FIGURE 1
Frequency to PHQ-9 question by country: I do feel discouraged, hopeless, or depressed.

Examining the employment patterns of caregivers across countries provides valuable insight into how work engagement relates to mental health outcomes. Over 68% of the Mexican respondents reported being employed, but only 44% of them worked full-time. In Colombia, 59% of the participants are employed, with 35% working full-time. In contrast, in Puerto Rico, 55% of the participants were employed, with 72% working full-time. Family caregivers frequently encounter difficulties when trying to balance their work and caregiving responsibilities. However, the data collected indicate that employed family caregivers tend to have mild or minimal depression score (Figure 4). In the Pearson correlation analysis between caregiver depression levels and employment status, a statistically significant but weak correlation was identified between those to variables ($p = <0.001$, $r = 0.112$), suggesting that employment status may play a role in caregiver mental health.

Statistically significant differences were observed in eight of the nine assessed items, indicating a consistent pattern of variation across most symptoms evaluated. Table 6 presents the results of independent samples' *t*-tests assessing depressive symptoms among caregivers based on their employment status. The most notable differences were found in the items "little interest or pleasure in doing things" [t (1,192) $= -3.64$, $p < 0.001$, $d = -0.218$], "feeling down, depressed, or hopeless" [t (1,192) $= 3.46$, $p < 0.001$, $d = -0.207$], and "feeling tired or having little energy" [t (1,192) $= -3.55$, $p < 0.001$, $d = 0.213$]. Mean

TABLE 5 Most significant correlations between depression and caregiving factors.

Factors	Correlation coefficient (*r*)	*p*-Value
Time spent on caregiving	0.191	<0.01
Employed	0.112	<0.01
Special needs caretaker	0.204	<0.01
Self-harm thoughts	0.511	<0.01
The caregiver is the daughter	0.082	<0.05
The caregiver is the granddaughter	0.063	<0.03

differences across these items ranged from 0.20 to 0.22 points, with higher scores in the unemployed group. Although the effect sizes (Cohen's *d*) were small (ranging from −0.067 to −0.218), their consistency across symptoms suggests a pattern of increased psychological vulnerability among those without employment. The item "thoughts of being better off dead or self-harm" approached significance ($p = 0.059$), indicating a possible trend toward increased ideation in the unemployed group.

A multiple linear regression analysis was conducted to evaluate whether spirituality, educational attainment, receiving support for caregiving tasks, employment, country and age function as protective factors against depressive symptoms, while statistically controlling for age and country of origin. The overall model reached statistical significance, F (6, 1,187) = 3.215, p = 0.004, explaining 1.6% of the variance in depressive symptoms ($R^2 = 0.016$). Among the predictors, three variables emerged as statistically significant. Educational attainment was inversely associated with depressive symptoms ($B = -0.528$, $p = 0.022$), indicating that higher levels of education may serve as a protective factor. Spirituality ($B = 1.304$, $p = 0.039$) and employment ($B = 1.452$. $p \leq 0.01$) were positively associated with depressive symptomatology. Conversely, age, country of origin, and receiving support for caregiving tasks were not significant predictors within the model. While the overall explanatory power of the model was modest, the results highlight specific psychosocial variables that may shape the mental health experiences of caregivers (Table 7).

Discussion

This study investigates the relationship between sociodemographic characteristics and depressive symptoms in informal caregivers across three Hispanic countries linked to the U.S., highlighting key psychosocial predictors and the broader impact of care-related depression in their country of origin. The sample analysis reveals a significant gender imbalance in caregiving, with 74% of caregivers being female, who experience higher levels of depression compared to males. The disproportionate caregiving burden, exacerbated by the fact that 62% of female caregivers are employed and 91.8% receive no financial compensation, reflects entrenched gender roles assigning women primary responsibility for family care.

This research emphasizes the complex relationship between caregiving and depressive symptomatology, providing valuable insights into the psychosocial vulnerabilities that caregivers encounter within their microsystems and familial environments. A high prevalence of depressive symptoms was observed, with fatigue (76.7%), sleep disturbances (63.3%), and feelings of depression or hopelessness (54.4%) emerging as the most reported symptoms. This emotional burden directly impacts caregivers' ability to provide quality care and support to older adults, while also posing long-term health risks for caregivers themselves, especially those offering daily emotional, financial, and practical assistance.

The strong correlation between depressive symptoms and self-harm thoughts ($r = 0.511$, $p < 0.01$) underscores the urgent need for mental health interventions, including systematic screening and crisis support services. The modest but positive associations between caregiving for individuals with special needs and the duration of caregiving suggest that prolonged caregiving responsibilities cumulatively contribute to psychological distress. Notably, depression often remains undetected, despite its potential link to caregiving duration. Hurtado-Vega (51) found that informal caregivers who devote more than 14 h per day to caring for older adults experience higher levels of anxiety, depression, and physical health issues compared to non-caregivers. Consistent with this, our study identified a modest but statistically significant relationship between depression and time spent caregiving. To mitigate the impact of these stressors, concise and effective support strategies, such as cognitive-behavioral group interventions that encourage active participation, may prove beneficial for caregivers (45, 54).

Employment also emerged as a factor associated with elevated depressive symptoms. Although causality cannot be inferred from this correlation, it is plausible that caregivers balancing work responsibilities face compounded psychological distress, exacerbated by economic pressures and the demands of providing care. Additionally, gendered caregiving expectations are evident in our findings, with daughters and granddaughters disproportionately assuming caregiving duties. These results underscore the need for comprehensive, gender-sensitive support systems that mitigate the adverse effects of caregiving and promote caregiver wellbeing. However, it is crucial to approach the relationship between gender, caregiving, and depression with caution. This finding underscores the importance of further research should adopt longitudinal and qualitative approaches to deepen understanding and inform targeted interventions. Some authors exploring gender differences in caregiver profiles have noted that women are often more proactive regarding their health and more inclined to seek healthcare than men (72). These insights can enhance discussions about engagement in activities that provide personal social support.

Our research revealed that more than 58.4% of respondents receive support from various sources, such as family members, romantic partners, professional caregivers, religious community members, or neighbors. The differences in health systems, and caregiver policies across Colombia, Mexico, and Puerto Rico may shape access to formal support services. Variations in healthcare infrastructure and social programs can affect caregivers' ability to obtain training, financial aid, and psychological resources. Liu et al. (18) found that improved family dynamics lead to a significantly better quality of life for caregivers, while increased caregiver overload is associated with a decline in their quality of life. Findings

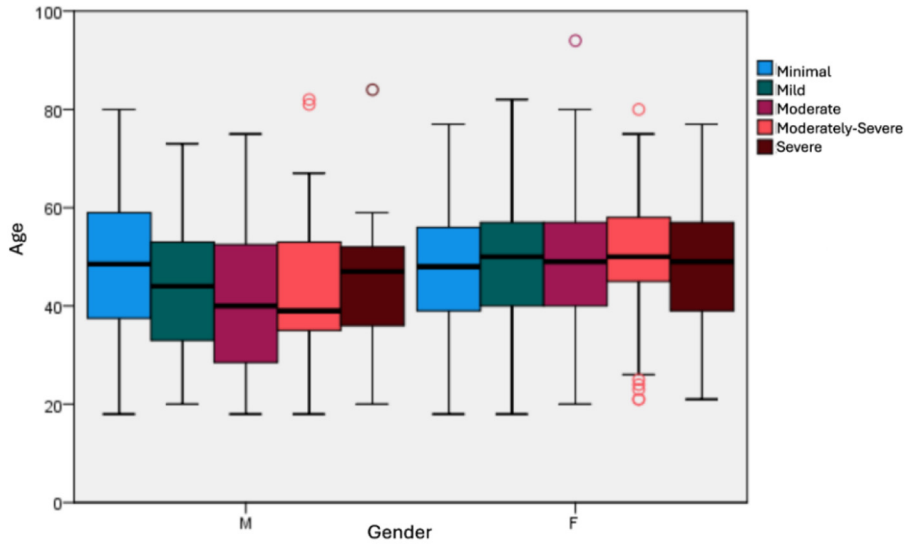


FIGURE 2
Distribution between depression scoring, age and gender general sample.

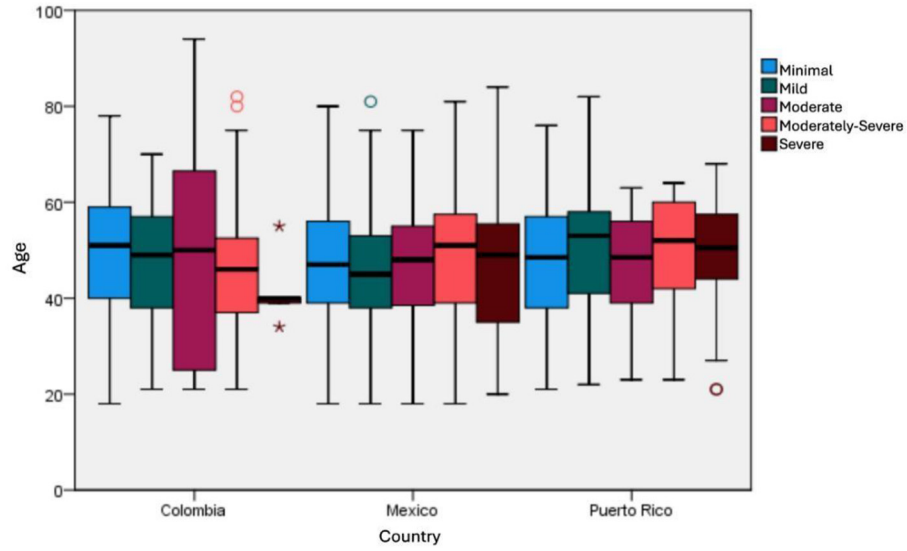


FIGURE 3
Distribution between depression scoring and age by country. The asterisks (*) and circles (°) denote statistical outliers, with asterisks indicating extreme outliers beyond 3 times the Interquartile Range (IQR) and circles representing mild outliers.

from other studies reveal that caregivers depend on their abilities in acts of selflessness and primarily obtain emotional support from their families and social networks to manage the challenges of caregiving (29).

Nonetheless, our findings indicate that social support is not a significant protective factor against depressive symptoms. Research suggests that a lack of satisfaction with social support and limited assistance contribute to an increased sense of burden among unpaid caregivers of older adults (72). However, factors such as discrimination and language barriers within the community can undermine these crucial connections (46, 73). This is particularly relevant in populations from Mexico and Colombia, where an estimated 1.2 million and 110,500 individuals over the age of 65, respectively, are recognized as speakers of indigenous languages. Although race and ethnicity were not included in our study, some authors suggest that caregiving experiences may vary based on these factors, highlighting the influence of diverse sociocultural backgrounds (15, 36). Further analysis is needed within multiethnic contexts, especially in Mexico and Colombia.

Our findings demonstrate that Hispanic family caregivers are more inclined to live with the patient. In this context, some authors compare this to the traditional US family structure and suggest that Hispanics tend to exhibit greater hopefulness, particularly when they are family members (74). In the literature on the

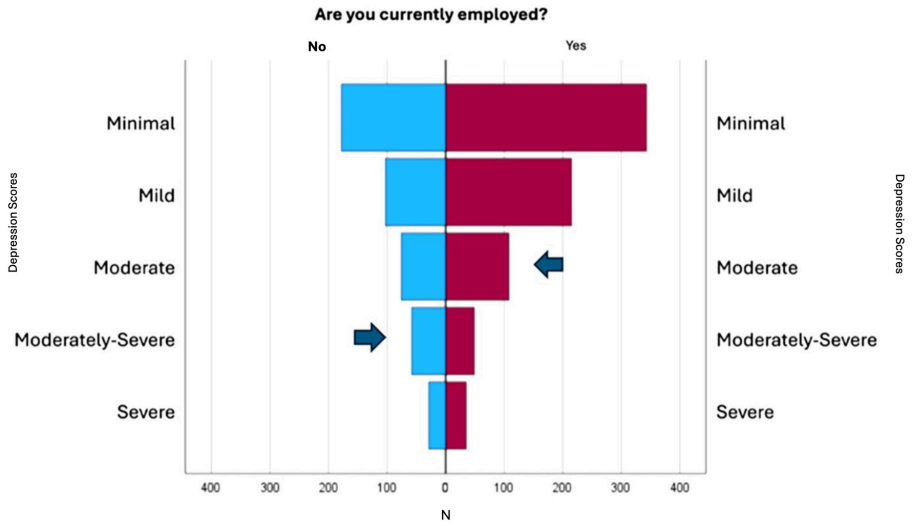


FIGURE 4
Frequencies between depression scores, caregiving, and employment.

TABLE 6 Differences in depressive symptoms by employment status.

Item	*t*	df	*p*-Value	Cohen's	Mean (yes)	Mean (no)
1. Little interest or pleasure in doing things	−3.64	1,192	<0.001	−0.218	0.65	0.85
2. Feeling down, depressed, or hopeless	−3.46	1,192	<0.001	−0.207	0.75	0.94
3. Trouble falling or staying asleep or sleeping too much	−3.43	1,192	<0.001	−0.205	1.05	1.27
4. Feeling tired or having little energy	−3.55	1,192	<0.001	−0.213	1.25	1.46
5. Poor appetite or overeating	−2.33	1,192	<0.020	−0.140	0.8	0.95
6. Feeling bad about yourself or that you are a failure or have let yourself or your family down	−2.31	1,192	<0.021	−0.139	0.7	0.84
7. Trouble concentrating on things, such as reading the newspaper or watching television	−2.33	1,192	<0.020	−0.132	0.7	0.83
8. Moving or speaking so slowly that other people might have noticed? Or the opposite: being so fidgety or restless that you have been moving around a lot more than usual	−2.72	1,192	<0.007	−0.142	0.49	0.63
9. Thoughts that you would be better off dead or of hurting yourself in some way	−1.89	1,192	<0.059	−0.067	0.18	0.25

United States, some studies suggest that the environments of non-Hispanic Caucasian informal caregivers are marked by lower levels of familism, a lack of reciprocity in their caregiving roles, and generally limited religious beliefs or spirituality. In contrast, our findings, based on data from three Hispanic populations, indicate a different relationship with familism and spirituality. For Hispanic families, the concept of family functionality seems deeply rooted in a commitment to mutual care and support. This commitment entails adapting to changes and collaboratively tackling challenges that arise when a family member requires assistance, highlighting the resilience and strength of familial bonds (34). However, navigating the interplay between various support systems and mental health outcomes within Hispanic communities remains a complex and multifaceted challenge. Framed within the ecological structural-systems model, this study provides insight into the impact of family caregiving on the mesosystem, particularly in how its associated symptoms can affect external environments such as the workplace. Based on our findings, we have adapted Falzarano's conceptualization to underscore the significance of incorporating cultural values in the design of interventions and support systems for family caregivers (Figure 5).

Earlier studies have found that non-working caregivers tended to exhibit more depressive symptoms than their employed counterparts, even after controlling for sociodemographic factors and social networks (75). Our study's *t*-test analysis reveals that unemployed caregivers report higher scores across most PHQ-9 items, with statistically significant differences supported by negative *t*-values and effect sizes (Cohen's *d*). While these differences are not always of large magnitude, they are systematic and reflect a clear trend within the analyzed sample. The most

notable differences were found in the items "little interest or pleasure in doing things," "feeling down, depressed, or hopeless," and "feeling tired or having little energy."

The absence of work-related resources may exacerbate psychological distress among unemployed caregivers, potentially hindering their ability to re-enter the labor market and perpetuating a cycle of economic and emotional vulnerability. Notably, although suicidal ideation did not reach conventional statistical significance ($p = 0.059$), the unemployed caregivers warrant attention, as even subclinical elevations in this domain may carry clinical implications. These findings highlight the importance of support programs that enhance caregivers' job stability through initiatives such as work flexibility and access to mental health resources. In this context, financial instability emerges as a significant source of stress that can lead to increased levels of depression and anxiety (57). Caregivers may face limited resources, often forcing them to purchase cheaper, less nutritious food, which negatively impacts their health (51). Financial pressure can harm their nutrition and set the stage for future health problems, including chronic conditions from poor diet and stress.

TABLE 7 Linear regression analysis protective factors against depressive symptoms.

Category	*B*	*β*	Depressive symptoms	
			t	*p*-Value
Constant	4.437		2.944	0.003
Age	0.004	0.035	1.227	0.220
Country	0.222	0.024	0.800	0.424
Education	−0.528	−0.069	−2.301	0.022
Spirituality	1.304	0.060	2.070	0.039
Receives support for caregiving tasks	0.301	0.024	0.819	0.413
Employment	1.452	0.112	3.900	<0.01

The study's results from the *t*-test and linear regression analysis provide complementary insights into the factors contributing to depressive symptoms among caregivers. The linear regression suggests that employment, rather than serving as a protective factor, is positively associated with depressive symptoms ($B = 1.452$, $p < 0.01$). The positive coefficient observed in the regression indicates that, within the caregiver population, employment may be linked to an increased psychological burden, potentially due to the dual demand of occupational and caregiving responsibilities. Moreover, the depressive symptoms with the most pronounced differences in the *t*-test, such as fatigue, sleep disturbances, and feelings of worthlessness, are precisely those that can impair workplace functionality. This finding suggests that, while employment provides structural and economic stability, it is not sufficient on its own to prevent depression unless accompanied by favorable working conditions and support resources. Protective factors such as resilience, self-efficacy, purpose, and social support play vital roles in reducing care-related stressors, thereby promoting a holistic quality of life for caregivers (76).

Additionally, the analysis found that higher levels of education may mitigate depressive symptoms, suggesting that greater educational attainment could enhance access to mental health information and foster more effective coping strategies, potentially

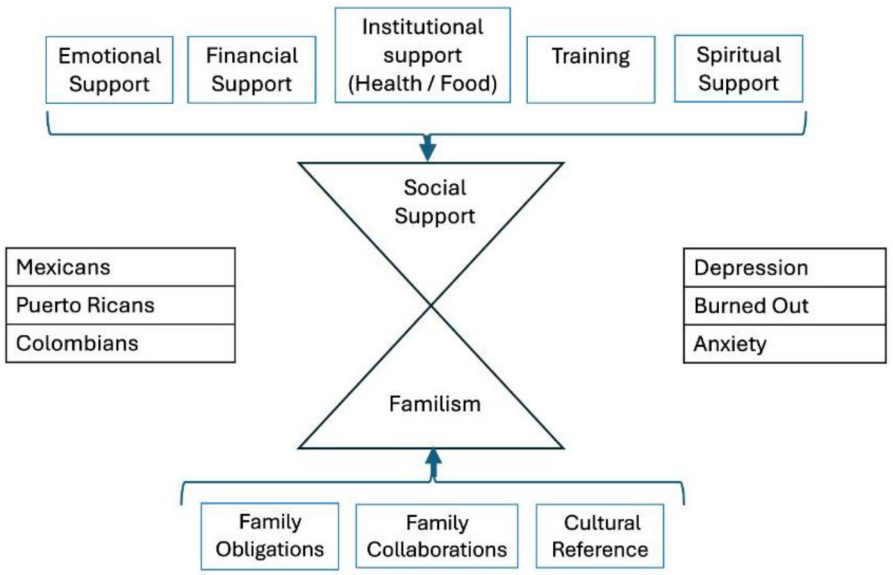


FIGURE 5
Structural model of race, social support and familism, and social support and familism predicting depression. Adapted from Family matters: cross-cultural differences in familism and caregiving outcomes by Falzarano et al. *J Gerontol B Psychol Sci Soc Sci*. (2022) 5:1275. https://doi.org/10.1093/geronb/gbab160. Copyright © 2021, © The Author(s) 2021. Published by Oxford University Press on behalf of The Gerontological Society of America (19).

reducing caregiving-related stress. Conversely, spirituality emerges within the sample as a significant predictor of depressive symptoms. Care practices may have developed from religious observance and a sense of communal responsibility, aimed at alleviating or distributing the burden of caregiving (42, 77). However, the positive coefficient indicates that higher levels of spirituality are associated with an increase in depressive symptoms, an unexpected finding given that previous literature generally identifies spirituality as a protective resource against psychological distress.

One possible interpretation is that, within this caregiver sample, spirituality may be linked to passive coping mechanisms or resignation in the face of caregiving challenges, which could exacerbate depressive symptomatology rather than alleviate it. Additionally, this result may reflect a tendency in which individuals experiencing depressive symptoms rely more heavily on spirituality as a coping strategy, explaining the observed positive correlation in the model. Furthermore, religiosity can affect mental health through the concept of religious scrupulosity; thus, clinicians should exercise caution in order not to over-pathologize cultural ideals or overlook signs of psychopathology (78). The presence of a positive coefficient underscores the need for further exploration of spirituality's role in caregivers' emotional wellbeing, considering the influence of morality and differentiating between resiliencepromoting practices and those potentially associated with feelings of hopelessness or fatalism. Moral orientations are diverse among individuals and are influenced by various contexts and the passage of time (79). This complexity can result in moral distress, a phenomenon that resonates with all parties involved, highlighting the interconnectedness of our experiences. The moral identity assigned to family caregivers often exacerbates the challenges faced by migrant women (80).

These findings underscore the importance of adopting an intersectional lens in understanding caregiver mental health. The data show that most caregivers are middle-aged, Hispanic women providing unpaid care, often without formal training or psychological support. Considering factors such as unemployment, low educational attainment, and gendered caregiving expectations, it becomes clear that these overlapping identities may compound psychological vulnerability. In this context, the regression analysis highlights the uneven impact of key sociodemographic factors. Higher educational attainment was associated with fewer depressive symptoms, while employment and spirituality were both linked to increased symptoms. These contrasting associations suggest that social and cultural resources are not always beneficial; instead, their effects may depend on caregivers' personal experiences, broader social and economic challenges, and the emotional meaning attached to each role.

Recommendations

From an applied perspective, our findings suggest several targeted intervention strategies to support informal caregivers. First, given the observed association between extended caregiving hours and increased depressive symptoms, it is essential to develop respite care programs specifically directed at caregivers who provide more than 12 h of daily care. These programs should offer flexible, shortterm relief options to reduce psychological distress and prevent burnout. Second, considering the modest but significant relationship between spirituality and caregiver wellbeing, we recommend integrating spiritually oriented components into psychosocial interventions. These could include access to religious social support networks, faith-based counseling, or structured opportunities for spiritual reflection. Including variables such as perceived control and religious social support in intervention design may offer a more nuanced and culturally relevant approach to addressing depressive symptoms in this population. Third, to address the limited access to formal training and mental health resources identified in the caregiver population, public policies should prioritize community-based support networks, affordable psychological services, and education or professional development programs tailored to caregivers' specific needs. These initiatives would not only enhance caregivers' skills but also reduce feelings of isolation and emotional burden.

Finally, it is critical to acknowledge the interplay between micro-systemic family norms and macrosystemic caregiving policies. In the three countries under examination, adult offspring are legally obligated to care for their parents. Therefore, coordinated efforts between government and community institutions should prioritize caregiver subsidies, paid leave, geriatric care training, and in-home support services. Such measures are key to alleviating both the emotional and physical burdens of caregiving, especially for those operating within culturally and structurally reinforced caregiving roles.

Conclusion

This study reveals consistent predictors of depressive symptoms among informal caregivers in three Spanish-speaking countries: unemployment, lower education, and passive spiritual coping increased distress, while higher education was protective. Formal employment did not reduce symptoms, likely due to the dual burden of work and caregiving. These findings highlight the need for culturally responsive, holistic interventions that address caregivers' spiritual, familial, and economic vulnerabilities. Clinically, this research offers three key insights: First: demographic markers can guide early identification and preventive outreach. Second: the link between employment and higher depressive symptoms underscores the need for workplace mental health support. Third: the connection between spirituality and distress suggests reorienting passive coping into resilience-building strategies. To reduce mental health disparities, future research should employ longitudinal and probability-based designs to explore causal pathways and disparities across sociodemographic variables (gender, socioeconomic status, ethnocultural and migration history). Policymakers and service providers must translate this evidence into action by developing integrated, accessible support systems that include workplace screening, caregiver education, and community partnerships, ultimately improving caregiver wellbeing across diverse cultural settings.

Limitations and future directions

This cross-sectional study on informal caregivers in three Spanish-speaking countries has inherent design limitations. Convenience sampling risks selection and social desirability biases,

hindering generalizability and potentially underrepresenting caregiver distress or marginalizing their challenges. Single-point data collection precludes causal inference. While standardized, our instruments may have constrained nuanced cultural expression, and unequal sample sizes limit cross-country comparability. We also could not deeply explore sociocultural factors like ethnicity and stigma influencing symptom reporting.

Despite these, our findings offer valuable insights for Hispanic communities. Future research should employ mixed-methods and probabilistic sampling for enhanced representativeness and deeper understanding of lived experiences. Subsequent work must investigate how high-demand jobs, limited social support, and migratory mourning exacerbate caregiver strain, particularly for those facing cultural displacement, loneliness, and social isolation. Investigating the impact of economic hardship and food insecurity on caregiver wellbeing and care quality during crises such as forced displacement or migration is crucial. There is a notable lack of understanding regarding how migration affects informal caregivers, highlighting the need for culturally sensitive assessments and interventions. This need is further aligned with the requirement for preventive mental health strategies, particularly within formal employment contexts, as occupational stress in conjunction with caregiving responsibilities can exacerbate depressive symptoms. Such symptoms adversely affect not only occupational performance but also personal wellbeing. Additionally, further analysis is needed to understand the vulnerabilities of culturally displaced caregivers and age-related factors that may intensify depression.

Data availability statement

All data generated or analyzed in this study are include in the article. Further inquiries can be directed to the corresponding authors.

Ethics statement

The studies involving humans were approved by Junta de Revisión Institucional de la Pontificia Universidad Catolica de Puerto Rico. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

AM-A: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Supervision, Writing – review & editing. WS-G: Conceptualization, Investigation, Visualization, Writing – original draft, Writing – review & editing.

Funding

The author(s) declare that no financial support was received for the research and/or publication of this article.

Acknowledgments

The authors like to thank Laura Gonzalez-López, PhD; Rosa Mendoza-Páramo, MPP; Ruth Velasco-Salamanca, MSc; Jennifer Pérez-Rivera, PhD; and Joan Serra-Perez, PhD, for valuable feedback and assistance with data collection in the early stages of the study. In addition, we extend our sincere appreciation to Iveliz M. Cruz-Irizarry, MLIS, for the editorial efforts of this work. We sincerely appreciate the many participants who shared their experiences with us, particularly those from the Escuela para Cuidadores de Adultos Mayores at the Pontifical Catholic University of Puerto Rico (PCUPR). We also acknowledge the invaluable support in accessing participant groups from Universidad del Valle de Atemajac and Universidad Vasco de Quiroga in Mexico, as well as from Universidad Católica in Colombia.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declare that no Gen AI was used in the creation of this manuscript.

Publisher's note

References

1. Edwards VJ, Bouldin ED, Taylor CA, Olivari BS, McGuire LC. Characteristics and health status of informal unpaid caregivers–44 states, district of Columbia, and Puerto Rico, 2015–2017. *MMWR Morb Mortal Wkly Rep.* (2020) 69:183–8. doi: 10.15585/mmwr.mm6907a2

2. Hierofani PY, van Riemsdijk M. A typology of family caregiving for older immigrants: perspectives from care receivers and care providers. *Int J Migr Health Soc Care.* (2024) 20:407–21. doi: 10.1108/IJMHSC-06-2022-0063

3. Jones CH, Dolsten M. Healthcare on the brink: navigating the challenges of an aging society in the United States. *NPJ Aging.* (2024) 10:22. doi: 10.1038/s41514-024-00148-2

4. Schulz R, Beach SR, Czaja SJ, Martire LM, Monin JK. Family caregiving for older adults. *Annu Rev Psychol.* (2020) 71:635–59. doi: 10.1146/annurev-psych-010419-050754

5. United States Census Bureau. Alternative scenarios projections for the United States: 2023 to 2100. In: National Population Projections Tables, editor. *Projected Population by Age Group for the United States for the Main Series and Alternative Immigration Scenario: 2022 to 2100*. Washington, DC: US Census Bureau (2023).

6. World Bank. Country profiles. In: Population Ages 65 and Above (% of Total Population) editor. Washington, DC: World Bank Publications (2024).

7. Sixsmith J, Sixsmith A, Fänge AM, Naumann D, Kucsera C, Tomsone S, et al. Healthy ageing and home: the perspectives of very old people in five European countries. *Soc Sci Med.* (2014) 106:1–9. doi: 10.1016/j.socscimed.2014.01.006

8. Theodosopoulos L, Fradelos EC, Panagiotou A, Dreliozi A, Tzavella F. Delivering culturally competent care to migrants by healthcare personnel: a crucial aspect of delivering culturally sensitive care. *Soc Sci.* (2024) 13:530. doi: 10.3390/socsci13100530

9. U.S. Department of Health and Human Services, Administration for Community Living. *REISE Family Caregiving Advisory Council Report to Congress 2024: Progress Report: Federal Implementation of the 2022 National Strategies to Support Family Caregivers*. Developed jointly by the REISE Family Caregiving Advisory Council and the Advisory Council to Support Grandparents Raising Grandchildren. Washington, DC: GPO (2024).

10. Centers for Disease Control. *Healthy Habits: Caring for Yourself When Caring for Another*. (2024). Available online at: https://www.cdc.gov/caregiving/caring-for-yourself/index.html (Accessed February 10, 2025).

11. *Encuesta Nacional para el Sistema de Cuidados (ENASIC)-2022*. Mexico: Instituto Nacional de Estadistica y Geografia (2023).

12. Escobar-Colon S. *Uno de Cada Cinco Puertorriqueños son Cuidadores Informales de Adultos Mayores*. San Juan: Noticel (2024).

13. Figueroa-Rosa BJ. *Con Rostro de Mujer el Perfil de Cuidadores de Adultos Mayores en Puerto Rico*. San Juan: Primera Hora (2023).

14. Departamento de Planeacion. *Boletin de Genero. Poblacion Adulta Mayor en la Economia del Cuidado*. Bogota, DC: Consejeria Presidencial para la Equidad de la Mujer (2022).

15. Boll T, Ferring D, Valsiner J. Culture in the act of caring. In: *Bringing Geropsychology, Other Gerosciences and Cultural Psychology Together*. Charlotte, NC: Information Age Publishing (2018).

16. Zarzycki M, Seddon D, Bei E, Morrison V. Why do they care? A qualitative systematic review and meta-synthesis of personal and relational motivations for providing informal care. *Health Psychol Rev.* (2023) 17:344–76. doi: 10.1080/17437199.2022.2058581

17. Garcini LM, Sarabu V, Buchwald E, Rahman L, Yan J. *Aging and Immigration Nexus: Health Ramifications for Older Adults with Undocumented Legal Status*. Houston, TX: Rice University's Baker Institute for Public Policy (2023). doi: 10.25613/7N8J-W895

18. Liu C, Badana ANS, Burgdorf J, Fabius CD, Roth DL, Haley WE. Systematic review and meta-analysis of racial and ethnic differences in dementia caregiversgiversversregi*Gerontologist.* (2021) 61:e228aley doi: 10.1093/geront/gnaa028

19. Falzarano F, Moxley J, Pillemer K, Czaja SJ. Family matters: cross-cultural differences in familism and caregiving outcomes. *J Gerontol B.* (2022) 77:1269–79. doi: 10.1093/geronb/gbab160

20. Delgado JL. Beyond diversity—Time for new models of health. *N Engl J Med.* (2022) 386:503–5. doi: 10.1056/NEJMp2115149

21. McFarling UL. *The "Hispanic Paradox" Iintrigues a New Generation of Researchers Determined to Unravel It*. STAT News (2023). Available online at: https://www.statnews.com/2023/09/14/hispanic-paradox-life-expectancy-research (Accessed January 10, 2025).

22. Mulvaney-Day NE, Alegria M, Sribney W. Social cohesion, social support, and health among Latinos in the United States. *Soc Sci Med.* (2007) 64:477–95. doi: 10.1016/j.socscimed.2006.08.030

23. Fernandez J, García-Pérez M, Orozco-Aleman S. Unraveling the Hispanic health paradox. *J Econ Perspect.* (2023) 37:145–67. doi: 10.1257/jep.37.1.145

24. Murphy S, Kochanek K, Xu J, Arias E. *Mortality in the United States, 2023*. Hyattsville, MD: National Center for Health Statistics (2024).

25. Mendoza N. The impact of Latino culture on the experiences of abuelitas. *Gener J.* (2025). Available online at: https://generations.asaging.org/impact-latino-culture-experiences-abuelitas-grandmothers/ (March 12, 2025).

26. Viafara-Guacanema DA. *Interseccionalidad de genero y edad como marco analitico en violencia de parejas hacia mujeres mayores [Tesis de Grado en Psicologia]*. Colombia: Universidad de los Andes (2018).

27. Torres-Sanmiguel AF, Carreño-Moreno S, Chaparro-Diaz L. Experiencia de los cuidadores informales en Colombia: revision sistematica y metasintesis. *Univ Salud.* (2024) 26:29–40. doi: 10.22267/rus.242601.318

28. Whitney RL, Bell JF, Kilaberia TR, Link BM, Choula RB, et al. Diverse demands and resources among racially/ethnically diverse caregivers. *Ethn Health.* (2023) 28:912–31. doi: 10.1080/13557858.2023.2179022

29. Mendez-Luck CA, Anthony KP, Guerrero LR. Burden and bad days among MexicanOrigin women caregivers. *J Gerontol B Psychol Sci Soc Sci.* (2020) 75:1719–30. doi: 10.1093/geronb/gbz102

30. Duran Badillo T, Donjuan-Díaz BE, Herrera Herrera JL, Llorente Pérez YJ, Cortes Montelongo DB, Guerra-Ordoñez JA. *Estrés y Espiritualidad Relacionado con la Sobrecarga en Cuidadores de Adultos Mayores con Dependencia Total*. Habana: Revista Cubana de Enfermería (2023). p. 39. Available online at: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-03192023000100052&lng=es

31. Organizacion Internacional del Trabajo. *El Trabajo de Cuidados y los Trabajadores del Cuidado Para un Futuro Con Trabajo Decente*. Ginebra, CH: OIT (2018).

32. Lopez-Ortega M, Aranco N. *Envejecimiento y atencion a la dependencia en Mexico*. Washington, DC: Banco Interamericano de Desarrollo (2019). doi: 10.18235/0001826

33. Loyo-Beristain EA. Construccion simbolica de la vejez en Mexico: cuidados, descuidos y olvidos. In: Rodriguez-Zepeda J, Gonzalez-Lunez T, editors. *Interseccionalidad. Teorias antidiscriminatorias y analisis de casos. Signos, 104*. Ciudad de Mexico: Univ. Aut. Met. Unidad. Itapalapa (2023). p. 293–314.

34. Salazar-Barajas M, Garza-Sarmiento E, García-Rodríguez S, Juárez-Vázquez P, Herrera-Herrera J, Duran-Badillo T. Funcionamiento familiar, sobrecarga y calidad de vida del cuidador del adulto mayor con dependencia funcional. *Enfermería universitaria.* (2019) 16:362–73. doi: 10.22201/eneo.23958421e.2019.4.615

35. McCleary L, Blain J. Cultural values and family caregiving for persons with dementia. *Indian J Gerontol.* (2013) 27:178–201. Available online at: http://gerontologyindia.com/pdf/vol27-1.pdf#page=186

36. Tran JT, Theng B, Tzeng HM, Raji M, Serag H, Shih M. Cultural diversity impacts caregiving experiences: a comprehensive exploration of differences in caregiver burdens, needs, and outcomes. *Cureus.* (2023) 15:e46537. doi: 10.7759/cureus.46537

37. Montoro-Rodriguez J, Gallagher-Thompson D. The role of resources and appraisals in predicting burden among Latina and non-Hispanic white female caregivers: a test of an expanded socio-cultural model of stress and coping. *Aging Ment Health.* (2009) 13:648–58. doi: 10.1080/13607860802534658

38. Cleary C, Dupree G, Welling A, Hernandez JF, Cuevas H, et al. Experiences and supportive care needs of Latinx millennial caregivers. *J Transcult Nurs Soc.* (2024) 35:415–24. doi: 10.1177/10436596241274116

39. Sehar U, Rawat P, Choudhury M, Boles A, Culberson J, Khan H, et al. Comprehensive understanding of Hispanic caregivers: focus on innovative methods and validations. *J Alzheimers Dis Rep.* (2023) 7:557–74. doi: 10.3233/ADR-220094

40. AARP and National Alliance for Caregiving. *Caregiving in the United States 2020*. Washington, DC: AARP. (2020). doi: 10.26419/ppi.00103.001

41. National Institute of Aging. *Caregiving in the Latino community: Infographics Stanford Alzheimer's Disease Research Center*. (2019). Available online at: https://www.nia.nih.gov/research/alzheimers-dementia-outreach-recruitment-engagement-resources/caregiving-latino-community

42. Schulz R, Czaja SJ. Family caregiving: a vision for the future. *Am J Geriatr Psychiatry.* (2018) 26:358–63. doi: 10.1016/j.jagp.2017.06.023

43. Garcia RI, Khemka S, Roghani AK, Reddy RP, Pattoor V, Jacob M, et al. Caring for individuals with Alzheimer's disease: a spotlight on Hispanic caregivers. *J Alzheimers Dis Rep.* (2024) 8:877–902. doi: 10.3233/ADR-240035

44. Ahmad M, van den Broeke J, Saharso S, Tonkens E. Persons with a migration background caring for a family member with dementia: challenges to shared care. *Gerontologist.* (2020) 60:340–9. doi: 10.1093/geront/gnz161

45. Arévalo-Flechas LC, Flores BP, Wang H, Liang H, Li Y, Gelfond J, et al. Stress-busting program for family caregivers: validation of the Spanish version using biomarkers and quality-of-life measures. *Res Nurs Health.* (2022) 45:205–17. doi: 10.1002/nur.22216

46. Ramos-Olazagasti MA, Conway CA. *The Prevalence of Mental Health Disorders Among "Latino" Parents*. The National Research Center on Hispanic Children Families (2022). Available online at: https://www.hispanicresearchcenter.org/research- resources/the-prevalence-of-mental-health-disorders-among-latino-parents/ (Accessed February 1, 2025).

47. Velasco-Mondragon E, Jimenez A, Palladino-Davis AG, Davis D, Escamilla-Cejudo JA. Hispanic health in the USA: a scoping review of the literature. *Public Health Rev.* (2016) 37:1–27. doi: 10.1186/s40985-016-0043-2

48. Zarzycki M, Seddon D, Bei E, Dekel R, Morrison V. How culture shapes informal caregiver motivations: a meta-ethnographic review. *Qual Health Res.* (2022) 32:1574–89. doi: 10.1177/10497323221110356

49. Galvis-Palacios LF, Lopez-Diaz L, Velasquez VF. Patrones culturales de cuidado familiar al adulto mayor en condición de discapacidad y pobreza. *Index de Enfermeria.* (2018) 27:170–4. Available online at: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1132-12962018000200013&lng=es

50. Hu FY, Wang Y, Abbas M, Bollens-Lund E, Reich AJ, Lipsitz SR, et al. Prevalence of unpaid caregiving, pain, and depression in older seriously ill patients undergoing elective surgery. *J Am Geriatr Soc.* (2023) 71:2151–62. doi: 10.1111/jgs.18316

51. Hurtado Vega JC. Impacto psicosocial e intervenciones de apoyo para cuidadores informales de personas dependientes en México. *Psicologia Iberoamericana.* (2021) 29:52. doi: 10.48102/pi.v29i1.339

52. Carrillo-Cervantes AL. Medina- Fernández IA, Carreño-Moreno S, Chaparro-Díaz L, Cortez-González LC, Medina-Fernández JA. Soledad, ansiedad, depresión y adopción del rol de cuidador de adultos mayores con enfermedad crónica durante la covid-19. *Aquichan.* (2022) 22:4. doi: 10.59760/873365.23

53. Alonso-Rodríguez ML, Chaparro-Díaz L, Carreño-Moreno S. *Soledad, Ansiedad, Depresión y Adopción del rol del Cuidador de Personas con Enfermedad Crónica en San Gil, Colombia*. Salud UIS [Internet] (2023). p. 55. doi: 10.18273/saluduis.55.e:23056

54. Zhou Z, Wang Y, Feng P, Li T, Tebes JK, Luan R, et al. Associations of caregiving knowledge and skills with caregiver burden, psychological well-being, and coping styles among primary family caregivers of people living with schizophrenia in China. *Front Psychiatr.* (2021) 12:631420. doi: 10.3389/fpsyt.2021.631420

55. Choi JY, Lee SH Yu S. Exploring factors influencing caregiver burden: a systematic review of family caregivers of older adults with chronic illness in local communities. *Healthcare.* (2024) 12:1002. doi: 10.3390/healthcare12101002

56. Da Costa M. How culture impacts health: the Hispanic narrative. *Creat Nurs.* (2023) 29:273–80. doi: 10.1177/10784535231211695

57. Lee M, Williams IC. Predictive factors on caregiver burden in caregivers of individuals with cognitive impairment. *Int J Care Coord.* (2022) 26:34–43. doi: 10.1177/20534345221148281

58. Parr LC, Mielenz TJ. Correlates of caregiver well-being: the national study of caregivers. *Front Public Health.* (2023) 10:1059164. doi: 10.3389/fpubh.2022.1059164

59. Arieli D, Yassour-Borochowitz D. Decent care and decent employment: family caregivers, migrant care workers and moral dilemmas. *Ethics Behav.* (2023) 34:314–26. doi: 10.1080/10508422.2023.2212822

60. Núñez-Rocha GM, Esqueda-Eguía BM, Salinas-Martínez AM, Ávila-Ortiz MN. Castro- Sánchez AE, Zambrano-Moreno A, et al. Differences in social determinants of health between urban indigenous migrants and non-indigenous people in North-Eastern Mexico: an analysis to prioritize. *Int J Environ Res Public Health.* (2021) 18:8464. doi: 10.3390/ijerph18168464

61. Cohen SA, Nash CC, Greaney ML. Place-based, intersectional variation in caregiving patterns and health outcomes among informal caregivers in the United States. *Front Public Health.* (2024) 12:1423457. doi: 10.3389/fpubh.2024.1423457

62. Mares-Rico KF, Cardona-Ramírez VL, Franco-Álvarez DM, Medina-Fernández IA, Medina-Fernández JA, Carrillo-Cervantes AL. Ansiedad, depresión y soledad en cuidadores de personas con enfermedad crónica. *Index de Enfermería.* (2022) 31:166–9. doi: 10.58807/indexenferm20225150

63. Kellner S, Morgan S, Gutierrez J, Collins K, Rohl B, Migliore F, et al. Perceived embarrassment and caregiver burden in essential tremor caregivers. *J Neurol Sci.* (2017) 383:205–10. doi: 10.1016/j.jns.2017.11.020

64. Montoro-Rodríguez J, Kosloski K, Kercher K, Montgomery RJV. The impact of social embarrassment on caregiving distress in a multicultural sample of caregivers. *J Appl Gerontol.* (2009) 28:195–217. doi: 10.1177/0733464808323449

65. PsychData. *About Us.* (2024). Available online at: https://www.psychdata.com/content/aboutus.asp

66. Munoz-Alicea AM, Gonzalez-Lopez L, Mendoza-Paramo RM, Velasco-Salamanca RM, Perez-Rivera JM, et al. Perfil del cuidador informal del adulto mayor. *Estudio comparativo entre Puerto Rico, Mexico y Colombia*. Ponce: Pontificia Universidad Catolica de PR (2023).

67. Oliveira Reis L. Translating questionnaires for use in crosscultural research-are we doing the right thing? *Actas Urològicas Espanolas.* (2009) 33:5–7. doi: 10.1016/S0210-4806(09)73995-6

68. Arrieta J, Aguerrebere M, Raviola G, Flores H, Elliott P, Espinosa A, et al. Validity and utility of the patient health questionnaire (PHQ)-2 and PHQ-9 for screening and diagnosis of depression in rural Chiapas, Mexico: a cross-sectional study. *J Clin Psychol.* (2017) 73:1076–90. doi: 10.1002/jclp.22390

69. Cassiani-Miranda CA, Cuadros-Cruz AK, Torres-Pinzón H, Scoppetta O. Pinzón- Tarrazona JH, López-Fuentes WY, et al. Validez del Cuestionario de salud del paciente-9 (PHQ-9) para cribado de depresión en adultos usuarios de Atención Primaria en Bucaramanga, Colombia. *Revista Colombiana de Psiquiatría*. (2021) 50:11–21. doi: 10.1016/j.rcp.2019.09.001

70. León-Hernández RC, Mártir-Hernández EB, Torres-Compeán YG, Sánchez-Garcés KA, Gutiérrez-Gómez T. Dependencia percibida y síntomas depresivos en cuidadores primarios informales de personas con enfermedades no transmisibles. *CienciaUAT.* (2020) 15:86–98. doi: 10.29059/cienciauat.v15i1.1386

71. Rosario-Hernández E, Rovira-Millán LV, Merino-Soto C, Angulo-Ramos M. Review of the psychometric properties of the patient health questionnaire-9 (PHQ-9) Spanish version in a sample of Puerto Rican workers. *Front Psychiatr.* (2023) 14:1024676. doi: 10.3389/fpsyt.2023.1024676

72. Maximiano-Barreto MA, Alves LCS, Monteiro DQ, Gratão ACM, Pavarini SCI, Luchesi BM, et al. Cultural factors associated with burden in unpaid caregivers of older adults: a systematic review. *Health Soc Care Community.* (2022) 30:e3629–42. doi: 10.1111/hsc.14003

73. Alegría M, Mulvaney-Day N, Torres M, Polo A, Cao Z, Canino G. Prevalence of psychiatric disorders across Latino subgroups in the United States. *Am J Public Health.* (2007) 97:68–75. doi: 10.2105/AJPH.2006.087205

74. Magaña SM, Ramirez-García JI, Hernandez MG, Cortez R. Psychological distress among Latino family caregivers of adults with schizophrenia: the roles of burden and stigma. *Psychiatr Serv.* (2007) 58:378–84. doi: 10.1176/appi.ps.58.3.378

75. O'Neill A, Gallagher S, Hannigan A, Robinson K. Association between work status and depression in informal caregivers: a collaborative modelling approach. *Eur J Public Health.* (2022) 32:59–65. doi: 10.1093/eurpub/ckab178

76. Musich S, Wang SS, Kraemer S, Yeh CS. The association of psychological protective factors with caregiver mental health outcomes. *Geriatr Nurs.* (2023) 50:174–80. doi: 10.1016/j.gerinurse.2023.01.020

77. Nielsen TR, Waldemar G, Nielsen DS. Rotational care practices in minority ethnic families managing dementia: a qualitative study. *Dementia.* (2021) 20:884–98. doi: 10.1177/1471301220914751

78. Bailey C, Venta A, Baumgartner M, Mercado A, Colunga-Rodríguez C, ÁngelGonzález M, et al. Religiosity and religious scrupulosity as markers of poor mental health in the Latinx community: a mediation model. *Pract Innov.* (2023) 8:2333. doi: 10.1037/pri0000208

79. Piquette D, Burns KEA, Carnevale F, Sarti AJ, Hamilton M, Dodek PM. Moral orientation, moral decision-making, and moral distress among critical care physicians: a qualitative study. *Crit Care Explor.* (2023) 5:e0879. doi: 10.1097/CCE.0000000000000879

80. Shrestha S, Arora S, Hunter A, Debesay J. The morality of care: female family caregivers' motivations for providing care to older migrants. *Qual Health Res.* (2024). doi: 10.1177/10497323241280239

frontiers | Frontiers in Public Health

TYPE Mini Review
PUBLISHED 09 September 2025
DOI 10.3389/fpubh.2025.1658591

OPEN ACCESS

EDITED BY
Gabriel Gomes De Oliveira,
State University of Campinas, Brazil

REVIEWED BY
Lakshmi Somatunga,
Nutrition and Indigenous Medicine, Sri Lanka

*CORRESPONDENCE
Justine McGovern
✉ justine.mcgovern@lehman.cuny.edu

RECEIVED 02 July 2025
ACCEPTED 18 August 2025
PUBLISHED 09 September 2025

CITATION
McGovern J and Fusco L (2025) 70 years of decoloniality: epistemic disobedience and global public health.
Front. Public Health 13:1658591.
doi: 10.3389/fpubh.2025.1658591

70 years of decoloniality: epistemic disobedience and global public health

Justine McGovern* and Lisa Fusco

Lehman College, City University of New York, Bronx, NY, United States

The term "epistemic disobedience" was coined by Walter Mignolo in his 2009 article entitled Epistemic Disobedience, Independent Thought and De-Colonial Freedom. While the decolonialization of global health research and practice has gained traction, epistemic disobedience is an emergent perspective in scholarship occurring at the intersection of public health and the population movement. Linked to decoloniality, a practice that coalesced in 1955, epistemic disobedience refers to research practices and perspectives that dismantle the power dynamics of colonialism by de-linking geopolitics from knowledge building (Mignolo, 2009). This mini review defines and situates key terms in historical and current literature; critically explores the usage of epistemic disobedience in public health scholarship; draws on case examples to suggest ways to apply epistemic disobedience; and articulates applications and implications in public health research and practice that seek to increase health equity as a human right.

KEYWORDS

epistemology, decolonization, global health, theory, research, practice

Introduction

The scope of scholarship examining decoloniality and Argentinian semiotician Walter Mignolo's contributions to the discourse is too vast to address here. This review focuses on Mignolo's concept of epistemic disobedience, a term that began to garner attention across disciplines in 2009 with the publication of his article entitled Epistemic Disobedience, Independent Thought and De-Colonial Freedom in the journal *Theory, Culture & Society.* Writing in Spanish and English, Walter Mignolo has been a key contributor for the past 30 years to theories seeking to deconstruct, challenge, and provide alternatives to colonial knowledge-building endeavors and epistemologies [i.e., (1–3)]. His ideas have been applied across a range of disciplines, including global health, education, political philosophy, human rights, art, music, ethnic and racial studies, anthropology, social work and more, as well as across the world [i.e., (4–12)]. However, public health scholarship has yet to embrace Mignolo's theory to the extent that other fields have done so, including global health [i.e., (11, 34)].

Distinguishing between public health and global health

The WHO refers to public health as organized efforts promoting prevention, health, and longevity with wellbeing as a goal across the physical, mental, and social domains and a focus on populations rather than individuals and diseases (13). Public health is, in large part, a distinct area of research and practice from global health. Public health consists primarily of science and practice that seeks to promote health, reduce health disparities, and identify and assess determinants of health (14). While public health may adopt an international lens and explore health topics affecting populations in different places across the world, it is not

typically as engaged with the interactions between places and populations, and their mutual impact on one another (14).

In contrast, global health addresses health problems from a global perspective (15). As defined by the WHO, global health focuses on improving health and promoting health equity for populations worldwide. As a field of study and practice that informs policy, global health is concerned with health issues that transcend borders, have an impact on political and economic outcomes, and reflect geopolitical patterns (15).

While there is overlap between the domains of public health and global health, some differences remain. Significant to this review, a Google Scholar search of the terms "decoloniality and public health" yields a selection of articles referring to global health rather than public health, highlighting the different foci of the two disciplines.

From decoloniality to epistemic disobedience

Mignolo identifies the origins of decoloniality as taking root during the Bandung Conference of 1955 (3). Over the course of the conference, representatives from 29 countries, mostly Asian and African, gathered to define a future that was tied neither to capitalism nor communism, the systems that supported their colonization. The publication of Frantz Fanon's The Wretched of the Earth in 1961 extended the decolonial perspective into the field of psychology, adding a new angle to the discourse. Expanding on the structural-political impact of colonialism, (16) explored the dehumanizing effects of colonialism on individuals and societies. A seminal voice in decolonization scholarship and politics, Fanon called for a social movement to free individuals and societies of the long reach of colonialism (16, 17). That same year, the Conference of Non-Aligned Countries occurred in Belgrade, cementing the goals of decolonization and the commitment to de-linking from the hegemony of Western knowledge imperialism (3).

Now, 70 years after the Bandung Conference, decoloniality has come to be understood as a critique of Western systems, structures, and institutions that privilege certain societies, languages, ways of knowing, ethnicities, and other socio-political markers over others (18). Moreover, decoloniality challenges knowledge and knowledge production that stem from colonial practices (19, 20). According to Mignolo (3), the focus of decoloniality in its current iteration is on social justice and global equity across domains, including the health, social, economic, and epistemic spheres, as well as across locations. Mignolo (3) has been instrumental in recasting decoloniality as necessary not only in identifying colonized locations (i.e., Fanon's Martinique), but also in the population movement itself, that is, migration. He suggests that migration patterns force a variety of consciousnesses to interact, potentially causing conflict. These interactions and conflicts not only result in disparities and inequities when systems and institutions privilege one epistemology over the other, but also highlight the need to unseat practices that promote colonial dominance. By challenging both the knowledge and knowledge-building endeavors of the colonial enterprise, epistemic disobedience offers an alternative that opens doors to other epistemic outcomes (2, 3). Over approximately the past 20 years, scholarship exploring epistemic disobedience and North and South interactions and exchanges in service to decolonizing global health has flourished [i.e., (21–23)]. The entirety of the literature is too broad to address in this mini review. Several scoping reviews provide a starting point for those interested in more breadth and depth [i.e., (24, 25)].

Applied epistemic disobedience

Knowledge production

Consisting of the de-linking of knowledge and the production of knowledge from geo-politics, epistemic disobedience aims to unlock new epistemologies about people, places, processes, and possibilities that extend beyond the tropes imposed by colonial systems that privilege certain sources of knowledge (i.e., statistics instead of storytelling or dreams); places of knowledge (Eurocentric locations instead of the Global South); and products of knowledge (scholarly texts instead of art) (2, 11). To accomplish this, it relies on research practices that destabilize current power structures at both macro and micro levels (26, 27).

Naidu (11) describes some macro attempts at levelling the hierarchies of knowledge. She cites mentoring and training Global South authors in how to meet the standards of Global North academic journals; publishing special issues of academic journals that focus on Global South voices; and creating regional, specialized editions of journals and conferences (11). Epistemic disobedience at the macro level can include research methodologies as well. For example, participant action research (PAR) and photovoice, which not only promote the co-creation of knowledge with citizen-scientists (no longer referred to as research subjects) but also disseminate findings in non-traditional means, can be considered examples of applied epistemic disobedience [i.e., (9, 10)].

Other practices more focused on the micro-production of scholarship have also gained traction in research that seeks to challenge colonial epistemologies. The inclusion of reflexivity and positionality statements in research narratives is now commonplace in decolonized qualitative research (28). Defined as a form of critical thinking that seeks to reveal assumptions while also finding ways to dismantle these assumptions, a reflexivity statement is distinct from a positionality statement (28). Practicing reflexivity requires that the researcher reflect and comment on how his/her role might influence research processes. Moreover, it situates the researcher as a learner, not only about the topic at hand but also about the self (28). While reflexivity practice has been criticized for replicating the very tropes it aims to challenge because it runs the risk of re-centering the researcher's voice and experience, it can also be an effective tool in exploring epistemological assumptions and privilege biases (27). Often linked to reflexivity, positionality more specifically asks researchers to examine their identity and social capital in relation to the study population (28). These statements constitute a manifestation of epistemic disobedience because they counter the notion of the researcher as the expert; reject that knowledge-building is an objective pursuit free of prejudice; and refute that epistemologies are immutable (26, 29).

Knowledge dissemination

Berdai Chouani et al. (29) stress that seeking alternative ways to disseminate knowledge is essential because systems of publication themselves reflect colonial priorities. For example, scientific journals

continue to privilege quantitative research, which prizes objectivity, statistical methods, and peer review, and English has become the lingua franca of scholarly articles. These standards reinforce colonial tropes by ignoring inherent hierarchies of research that tee-up scholars with access to top-level education, preparation, and networks for success in academia (2, 29). Finding alternative ways to disseminate findings, including the language in which findings are shared, constitutes an additional form of epistemic disobedience (2, 11). Publishing widely in Spanish and English himself, Mignolo (2) and other scholars advocating for epistemic disobedience argue for broadening the languages of research as well as the range of what should be considered data, of products that can communicate findings, and of methodologies.

Epistemic disobedience across disciplines

While references to epistemic disobedience in public health are virtually absent, many are readily available in other fields. The range of examples is too broad to cover here. Instead, examples from two fields, education and the arts, are included.

In education, Ramirez (30) applies epistemic disobedience in at least two ways. She includes a positionality statement and writes in the first person. Together, these narrative choices challenge the colonial notion of objectivity by asserting the authority of the researcher. In another example of epistemic disobedience from the field of education, Carr et al. (31) use participatory methods based on engaged listening, and the article contains positionality statements from each of the seven co-authors. Moreover, the article includes an abstract in Spanish, despite being published in English.

Bridging the fields of education and art, Hadeer's (8) article on slow photography offers an example of epistemic disobedience in data collection and knowledge dissemination. In her own words:

> My Slow Photography practice requires me to be fully attentive to everyday life, which gives voice to the present, the ordinary, and the unknown. Slow Photography is situated in holistic ways of thinking. By delinking my future- oriented, top-down, and separateness epistemology, I am cultivating my capability to do educational research that can reflect teachers and students' struggle. I aim to find hope behind the numbers, labels, and silence that are caused by the suppression of colonial bureaucratic institutions. (p. 75)

In another example from the arts, Miles (32) expounded on epistemic disobedience in contemporary Latin American art. While this study is traditional in its presentation, it extends the reach of epistemic disobedience by applying it to artists challenging colonial tropes in their practice. Their art becomes both a methodology to accomplish epistemic disobedience and an outcome of its application.

Discussion

Coined in 2009 by Walter Mignolo, epistemic disobedience refers to the de-linking of knowledge production and knowledge itself from geopolitics. It claims that colonial practices have ignored the relationships between power, politics, and privilege in the development of epistemologies. As a result, epistemologies currently promote ethnicity-based disparities that need to be addressed and redressed (2). This mini review explores the relevance and manifestations of epistemic disobedience in public health.

Unfortunately, unlike its cousin, global health, public health has not applied processes of decoloniality to a large extent, and epistemic disobedience has not emerged as a common topic in either theoretical or research articles in public health. This is not to say that public health researchers are not embedding epistemic disobedience methods in their study. Reflexivity and positionality statements, participatory action research methods, and structural changes, such as publishing special issues of journals centering on new voices, are now commonplace in public health and other fields. However, global health, education, the arts, political philosophy, anthropology, and other disciplines have taken the lead. Not only do these disciplines provide examples of the framework in action, but they also contribute critical theoretical perspectives to decolonial knowledge-building endeavors.

Next steps

Focusing on global health, Naidu (33) suggests some strategies for embedding epistemic disobedience in scholarship and decolonizing the field. Specifically, she highlights the blind eye of institutions and systems that privilege academic, political, economic, and Eurocentric perspectives on global health, rather than social, personal, emotional, and survival-based indigenous perspectives on health care workers, a majority of whom are women of color, regardless of where they practice (33). Naidu (33) has articulated guidelines to move forward with the decolonization project. These provide the next steps. In her own words:

> Requirements for resistance in global health scholarship.
>
> • Editorial boards declaring their gender, racial, colonial, and ancestral privileges and experiences in low-income and middle-income countries (LMICs).
>
> • Authors claiming space to write with emotion about personal and local identity perspectives in global health.
>
> • Supporting editors from diverse spaces with the administration of editorial work, while trusting, protecting and advancing the value of their previously neglected racial, gender, historical, and personal perspectives in editorial decision making.
>
> • Promoting abstracts in LMIC authors' first languages and the Indigenous languages of locations where research is done.
>
> • Establishing multiple platforms and methods of constructing and presenting research and findings within global health scholarship.
>
> • Relieving LMIC scholars of the pressure to provide solutions to problems they did not create, offering instead an opportunity for dialogue on equal terms. (p. e1334)

While Naidu (33) articulates structural strategies for decolonizing knowledge building and dissemination in the context of global health, other steps are required as well. Developing more examples of epistemic disobedience and raising awareness about the need to decolonize public health scholarship are two such steps. Future

explorations into how and how often epistemic disobedience is made manifest in research endeavors—and who is engaged in the practice—are necessary to fill knowledge gaps about the framework. Taking these steps might inspire more scholars to adopt the framework and contribute to reducing the impact of colonial power differentials that plague epistemological knowledge building in public health. Ultimately, Naidu's (33) call for resistance stands to increase health equity and decrease the legacy of racism in public health research in the global context.

Author contributions

JM: Methodology, Conceptualization, Writing – review & editing, Writing – original draft, Investigation, Resources. LF: Writing – review & editing, Formal analysis, Resources, Conceptualization.

Funding

The author(s) declare that no financial support was received for the research and/or publication of this article.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The authors declare that no Gen AI was used in the creation of this manuscript.

Any alternative text (alt text) provided alongside figures in this article has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

Publisher's note

References

1. Mignolo W. Local histories/global designs: Coloniality, subaltern Knowledges, and Border Thinking. Princeton, NJ: Princeton University Press (2000).

2. Mignolo W. Epistemic disobedience, independent thought and de-colonial freedom. *Theory Cult Soc*. (2009) 26:1–23. doi: 10.1177/0263276409349275

3. Mignolo W. Epistemic disobedience and the decolonial option: a manifesto. *Transmodernity*. (2011) 1:44–66. doi: 10.5070/T412011807

4. Arif Y. The reluctant native, or, decolonial ontologies and epistemic disobedience. *HAU J Ethnogr Theory*. (2021) 11:000-000. doi: 10.1086/713723

5. Bashi V. Epistemicide and epistemological disobedience: lessons from a critical synergy. *Ethn Racial Stud*. (2024) 47:2828–37. doi: 10.1080/01419870.2024.2367595

6. Bryan A. The epistemic dimensions of civil disobedience. *J Polit Philos*. (2023) 2023:1–21. doi: 10.1111/jopp.12310

7. Gurney K. (2022) Epistemic disobedience: institution building as artistic practice. Arts Research Africa Conference Proceedings, pp. 157–168.

8. Hadeer R. Practicing epistemic disobedience through embodying slow photography. *J. Sch. Photogr.* (2021) 1:71–82. Available at: https://digitalcommons.georgiasouthern.edu/cssc/2021/2021/11

9. McGovern J, Burt K, Schwittek D. Food for thought: Culturally diverse older adults' views on food and meals captured by student-led digital storytelling. *Urban Social Work*. (2006) 5:60–75. doi: 10.1891/USW-D-18-00005

10. McGovern J. (2017) Integrating student research across the social work curriculum: A photovoice case study. *Journal of Baccalaureate Social Work* 22:43–51.

11. Naidu T. Epistemic disobedience: undoing coloniality in global health research. *PLOS Global Public Health*. (2024) 4:e0003033. doi: 10.1371/journal.pgph.0003033

12. Yamin A. Struggles for human rights in health in an age of neoliberalism: from civil disobedience to epistemic disobedience. *J Hum Rights Pract*. (2019) 11:357–72. doi: 10.1093/jhuman/huz026

13. World Health Organization (1998) Life in the 21st century: a vision for all. The World Health Report. Available online at: https://apps.who.int/gb/archive/pdf_files/wha51/ea3.pdf (Accessed June 22, 2025).

14. Gatseva P, Argirova M. Public health: the science of promoting health. *J Public Health*. (2011) 19:205–6. doi: 10.1007/2Fs10389-011

15. Brown T, Cueto M, Fee E. The world helath organization and the transition from"international" to "global" public health. *Am J Public Health*. (2006) 96:62–72. doi: 10.2105/2FAJPH.2004.050831

16. Fanon F. Les damnes de la terre. Paris, France: Francois Maspero (1961).

17. Torres N. Fanon and decolonial thought In: M Peters, editor. Encyclopedia of educational philosophy and theory. Singapore: Springer (2017). 799–803.

18. Gu M. What is "decoloniality"? A postcolonial critique. *Postcolon Stud*. (2020) 23:596–600. doi: 10.1080/13688790.2020.1751432

19. Quijano A. Coloniality and modernity/rationality. *Cult Stud*. (2007) 21:168–78. doi: 10.1080/09502380601164353

20. Tuck E, Yang K. Decolonization is not a metaphor. *Decoloniz Indig Educ Soc*. (2012) 1:1–40.

21. Amrith S. Decolonizing international health: India and Southeast Asia, 1930–65. London, UK: Palgrave MacMillan (2006).

22. Kim J, Oleribe O, Njie R, Taylor-Robinson S. A time for new north–south relationships in global health. *Int. J. General Med*. (2017) 10:401–8. doi: 10.2147/IJGM.S146475

23. Nunes J, Louvison M. Epistemologies of the south and decolonization of health: for an ecology of care in collective health. *Saude Sociedade*. (2020) 29:63. doi: 10.1590/s0104-12902020200563

24. Mehjabeen D, Patel K, Jindal R. Decolonizing global health: a scoping review. *BMC Health Serv Res*. (2025) 25:828. doi: 10.1186/s12913-025-12890-8

25. Pant I, Khosla S, Lama JT, Shanker V, AlKhaldi M, El-Basuoni A, et al. Decolonising global health evaluation: synthesis from a scoping review. *PLOS Glob Public Health*. (2022) 2:e0000306. doi: 10.1371/journal.pgph.0000306

26. Naidu T, Gingell G, Zaidi Z. Decolonial framework for applying reflexivity and positionality in global health research. *Glob Health Promot* 1757-9759;. (2024) 31:52–8. doi: 10.1177/17579759241238016

27. Thambinathan V, Kinsella E. Decolonizing methodologies in qualitative research: creating spaces for transformative praxis. *Int J Qual Methods*. (2021) 20:766. doi: 10.1177/16094069211014766

28. Wilson C, Janes G, Williams J. Identity, positionality and reflexivity: relevance and applications to research on paramedics. *Br Paramed J*. (2022) 7:43–9. doi: 10.29045/14784726.2022.09.7.2.43

29. Berdai Chouani S, Claeys A, van den Broeke J, De Donder L. Doing research on the intersection of ethnicity and old age: key insights from decolonial frameworks. *J Aging Stud*. (2021) 56:100909. doi: 10.1016/j.aging.2020.100909

30. Ramirez C. Epistemic disobedience and grief in academia. *Educ Sci*. (2021) 11:477. doi: 10.3390/educsci11090477

31. Carr A, Bonilla G, Alchazidu A, Booth W, Chudova K, Tineo P, et al. Epistemic (in)justice: whose voices count? Listening to migrants and students. *J Comp High Int High Educ*. (2021). doi: 10.32674/jcihe.v15i5.5811

32. Miles A. Unbound philosophies and histories: Epistemic disobedience in contemporary Latin American art In: Knight W, Hickman R, Baldacchino J, Freeman K, Hall E, Meager N, editors. The international encyclopedia of art and design education. Somerset, NJ: John Wiley & Sons, inc (2019)

33. Naidu T. Says who? Northern ventriloquism, or epistemic disobedience in global health scholarship. *Lancet Glob Health*. (2021) 9:e1332–5.

34. McCoy D, Kapilashrami A, Kumar R, Rhule E, Khosla R. Developing an agenda for the decolonization of global health. *Bull World Health Organ*. (2023) 102:130–6. doi: 10.2471/BLT.23.289949

frontiers | Frontiers in Public Health

TYPE Brief Research Report
PUBLISHED 23 September 2025
DOI 10.3389/fpubh.2025.1644643

OPEN ACCESS

EDITED BY
Justine McGovern,
City University of New York, United States

REVIEWED BY
Harriet Fayne,
Lehman College, United States
Jaye Jones,
Lehman College, United States

*CORRESPONDENCE
Blanca Elizabeth Vega
✉ vegab@montclair.edu

RECEIVED 10 June 2025
ACCEPTED 19 August 2025
PUBLISHED 23 September 2025

CITATION
Vega BE (2025) Burdened and fatigued: the hidden costs of supporting undocumented students in postsecondary contexts.
Front. Public Health 13:1644643.
doi: 10.3389/fpubh.2025.1644643

Burdened and fatigued: the hidden costs of supporting undocumented students in postsecondary contexts

Blanca Elizabeth Vega*

Department of Educational Leadership, Montclair State University, Montclair, NJ, United States

Sociopolitical and institutional barriers significantly influence the mental health and overall well-being of undocumented and Deferred Action for Childhood Arrivals (DACA) students in US higher education. Concurrently, higher education and student affairs (HESA) professionals who serve these students face their own psychological and professional challenges as they navigate restrictive policies and bureaucratic uncertainty. This brief research report extends the Immigration Battle Fatigue (IBF) framework by integrating principles from administrative burden theory to examine the interconnected experiences of undocumented students and the professionals who support them. Drawing on qualitative data from a Spencer Foundation–funded study of HESA professionals' work with undocumented students, the analysis focuses on the psychological costs of immigration-related administrative burdens across four ecological levels: policy, institutional, interpersonal, and individual. Findings indicate that these psychological costs contribute to cumulative trauma, disengagement, and professional fatigue. The report concludes with implications for institutional practice, professional development, and policy reform to mitigate harm and promote systemic well-being.

KEYWORDS

higher education and student affairs (HESA) professionals, immigration battle fatigue, undocumented students, administrative burden theory, brief research report

Introduction

In 2022, 32% or 5.8 million postsecondary students were either born outside the US or had at least one immigrant parent (1). Further, undocumented students comprise 409,000 individuals in higher education, a decrease from 2019, when 427,000 were reportedly enrolled (2). With more than a third of postsecondary students impacted by their immigration status, researchers, policymakers, and educational administrators need to prioritize understanding and addressing how immigration shapes the postsecondary experience.

Immigration-related factors significantly influence students' postsecondary trajectories by affecting their overall health and well-being. Sixty percent of postsecondary students have been identified with one mental health concern (3), and over 75% reported psychological distress (33). While, in general, immigrant students arrive in the US with better health conditions than the US-born population, the stressors they experience (e.g., political climate) in the US change rapidly (4). As of this writing in 2025, the wave of raids and anti-immigration legislation imposed by the 47th administration has caused a significant number of immigrant people to report fear and distress related to national policymaking. Other stressors include restrictive immigration policies, causing mental health distress, such as anxiety and depression (5, 6). Researchers have also demonstrated that institutional agents in schools and postsecondary institutions can exacerbate the well-being of immigrant students, causing them to experience

microaggressions (7), restrict access to pertinent information regarding college access and success, and even impart misinformation (34, 35, 48).

Institutional agents in postsecondary education include Higher Education and Student Affairs (HESA) professionals, who are administrators, educators, and leaders who support student learning, development, and success outside the classroom through roles in areas such as advising, student life, multicultural affairs, residence life, and career services (8, 9). They help shape campus climate, policies, and programs to foster equitable and inclusive educational environments (10, 11). Despite growing concerns about undocumented students' well-being, research indicates that Higher Education and Student Affairs (HESA) professionals are perceived to lack awareness or care for the unique challenges these students face (12), and in some cases, may unintentionally inflict harm through microaggressions (7). At the same time, scholars have documented that HESA professionals themselves experience compassion fatigue when working with undocumented students, highlighting a need to address their mental health and emotional well-being (13) while others document the very real restrictions school agents experience when supporting undocumented students that constrain their ability to provide adequate support (36). This paper explores the intersection of these two strands of scholarship, the experiences of undocumented students and the psychological toll on HESA professionals, as a critical site of analysis.

In this brief research report, I examine the experiences of Higher Education and Student Affairs (HESA) professionals who work with undocumented students, alongside the policies shaping their practice. Drawing on qualitative data from a Spencer Foundation–funded study, I analyze the psychological costs of immigration-related administrative burdens across four interconnected levels: policy, institutional, interpersonal, and individual. This ecological perspective draws on Bronfenbrenner's (47) assertion that human development is shaped by "the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the person lives, as this process is affected by relations between these settings, and by the larger contexts in which the settings are embedded" (p. 21). Applying this framework highlights that these levels do not operate in isolation but interact to jointly shape the experiences and well-being of both students and professionals. By mapping these burdens across student and administrator pathways, the analysis underscores how systemic exclusion is embedded within and expressed across these layers. I argue that the psychological costs borne by undocumented students are closely tied to the administrative conflicts HESA professionals face within a complex and often hostile federal policy environment. Findings reveal that these costs contribute to cumulative trauma, disengagement, and secondary fatigue. I conclude by outlining implications for institutional practice, professional development, and policy reform aimed at mitigating harm and fostering systemic well-being.

Overview of relevant research

Postsecondary students whose educational trajectories are shaped and constrained by the federal government's use of immigration status as a criterion for determining eligibility for resources face a distinct set of challenges as they navigate the educational pipeline. This section briefly examines the experiences and well-being of DACA recipients and undocumented students at the postsecondary level. While the literature underscores the central role of Higher Education and Student Affairs (HESA) professionals in supporting the well-being of undocumented students, existing scholarship primarily reflects the perspectives of the students themselves, offering limited insight into the experiences and practices of the HESA professionals who work with them as part of this critical relationship.

Overview of undocumented students in higher education

While immigrant students experience distinct legal liminalities, for this paper, I will focus on students who are undocumented (i.e., individuals who do not have the documentation to provide them with protection from deportation). Undocumented immigrants are individuals born outside of the United States who reside within its borders without legal authorization (14). Within the context of higher education, undocumented students are those who similarly lack legal immigration status yet pursue postsecondary education in the U. S. These students often have lived in the United States for the majority of their lives, are fluent in English, and may have been unaware of their undocumented status until adolescence or early adulthood. Notably, both undocumented immigrants and undocumented students lack a clear and accessible pathway to citizenship (15, 37).

Diverse legal liminalities are important to highlight in this section. Recipients of the Deferred Action for Childhood Arrivals (DACA) are also considered undocumented, but with certain protections. DACA is an executive order established in 2012 under President Obama's administration. It has served 834,000 individuals, and despite its success, it faced attacks during the 45th administration, with efforts to rescind it beginning in 2017. In January 2025, the U. S. District Court for the Southern District of Texas ruled that a DACA decision was unlawful and issued a partial stay, allowing DACA recipients who applied in 2021 to renew their applications but not accepting new applicants. Nine states (Texas, Alabama, Arkansas, Kansas, Louisiana, Mississippi, Nebraska, South Carolina, and West Virginia) were plaintiffs in this ruling.

Despite these legal and structural limitations, all children, regardless of immigration status, are entitled to attend public elementary and secondary schools, as guaranteed by the Plyler v. Doe (16) decision. However, this legal protection does not extend to postsecondary education. At the federal level, undocumented students are barred from accessing most forms of postsecondary benefits, including federal financial aid. Nevertheless, some states have enacted policies that mitigate these restrictions by applying state residency criteria to extend in-state tuition and, in some cases, state-based financial aid to undocumented students.

Undocumented student health in higher education

Given the lack of protection undocumented students face in higher education, it is not surprising that they face a distinct set of health-related challenges. Legal precarity, limited access to health

services, and chronic psychosocial stress are factors that shape undocumented student health (17). Undocumented students navigate a complex and often hostile policy environment while attempting to meet academic and personal expectations, frequently navigating enforced invisibility within institutional life (17). A growing body of research underscores that both mental and physical health concerns are prominent in this population, alongside significant barriers to care and wellness access (18, 19).

Mental Health Strain and Psychosocial Stress. Undocumented students report elevated levels of anxiety, depression, and chronic stress relative to their documented peers, often linked to fear of deportation, institutional discrimination, and financial precarity (17, 20). Cha et al. (20) found that these stressors are frequently internalized and normalized, leading many students to interpret their psychological distress as an inevitable outcome of undocumented status, thereby diminishing help-seeking behaviors. Perceptions that mental health interventions are ineffective in addressing systemic causes, such as immigration-related exclusions, further discourage service use. The intersectional stigma associated with both undocumented status and mental illness adds to these barriers, creating significant psychosocial obstacles to care. In many cases, students avoid seeking help out of concern that they will be perceived as weak or risk disclosing their immigration status, even in confidential therapeutic settings.

Federal and State Barriers to Health Care Access. Lack of health insurance remains one of the most substantial barriers to care. Most undocumented students are ineligible for Medicaid, the Children's Health Insurance Program (CHIP), and coverage under the Affordable Care Act (ACA) (21), leaving them reliant on emergency care or informal support networks. DACA recipients became eligible to enroll in ACA programs under the Biden administration in 2024. However, the expanded access was challenged by 19 states, preventing DACA students from enrolling in health care assistance in those states. Even when campus or community health services are technically available, fears of institutional surveillance, lack of trust, and concerns about confidentiality contribute to underutilization (20).

Immigration Policy and Campus Climate. Shifting immigration policy landscapes, such as threats to the Deferred Action for Childhood Arrivals (DACA) program, generate constant instability for undocumented students and exacerbate mental health risks (22). Uncertainty over legal protections has been linked to heightened anxiety and emotional distress. However, research highlights that inclusive, supportive institutional environments or "undocu-serving" campuses can serve as a critical protective factor, promoting psychological well-being, academic persistence, and a greater sense of belonging (23).

The role of higher education and student affairs professionals in the well-being and mental health of DACA and undocumented students

While some universities offer mental health training for HESA professionals (24), this training is not mandatory, nor is it consistently included in HESA graduate programs. As a result, many professionals enter the field without a solid foundation in mental health or a nuanced understanding of how immigration status intersects with student well-being. Although mental health services may be available on campus, they are not always equipped to serve students with diverse and liminal immigration statuses effectively, especially when services are hard to access. In response, some institutions have developed specialized support programs, such as culturally responsive counseling, peer support groups, and wellness initiatives for international and undocumented students (25). Community partnerships with local health providers and social services have also become vital resources for students facing financial hardship or complex legal issues.

Despite these efforts, the role of HESA professionals is often limited to service provision and student support, neglecting the emotional labor they perform and the institutional gaps they must navigate. Research indicates that HESA professionals who work closely with undocumented students may suffer from compassion fatigue or secondary trauma due to repeated exposure to students' immigration-related stressors, worsened by a lack of training and institutional support (13). Furthermore, the literature underscores the possibility and responsibility of HESA professionals to act as institutional change agents. By leveraging their strategic roles, these professionals can help shape inclusive campus climates that resist and mitigate the effects of exclusionary immigration policies (26, 27). For example, after the 45th presidential administration rescinded DACA in 2017, university leaders have reassured undocumented students of their safety on campus by affirming that Immigration and Customs Enforcement (ICE) officials are not permitted to conduct arrests on university grounds. During that time, many university leaders have publicly denounced the 45th administration's actions on DACA.

Nevertheless, the limited attention to immigration status among higher education leadership and other HESA professionals remains evident. Public statements by university leaders have often been inconsistent and, in some cases, have conveyed harmful or ambiguous messages regarding immigration enforcement, border control, and the roles of undocumented parents (27). As stated earlier, research on undocumented students' perceptions of HESA professionals further underscores these challenges, with several studies documenting negative interactions. Vega et al. (38) demonstrate that such interactions can produce significant psychological and behavioral consequences, contributing to immigration battle fatigue—often exacerbated by the very professionals charged with supporting undocumented students—which compounds their already precarious circumstances. To interrogate these tensions more fully, this brief research report draws on a conceptual framework incorporating immigration battle fatigue, immigrant illegality, and administrative burden theory. Together, these frameworks reveal how HESA professionals can either perpetuate or disrupt institutional inequities and, in doing so, profoundly influence the well-being of undocumented students in postsecondary education.

Conceptual framework

This study draws on three intersecting frameworks—Immigration Battle Fatigue, Immigrant Illegality, and Administrative Burden Theory—to examine how undocumented students in higher education and the Higher Education and Student Affairs (HESA) professionals who support them experience and navigate immigration-related stressors. Together, these frameworks illuminate how exclusionary

policies, institutional practices, and social perceptions converge to produce cumulative psychological, emotional, and behavioral strain for both groups.

Situated within an ecological perspective spanning four levels—policy, institutional, interpersonal, and individual—this approach emphasizes the relational nature of these burdens. Immigration Battle Fatigue (38), adapted from Smith's (28, 29) concept of Racial Battle Fatigue, highlights the ongoing stress, reduced motivation, and withdrawal behaviors that arise when undocumented students face persistent policy confusion, stigma, and institutional neglect. Immigrant Illegality (39) describes undocumented status as a socially and legally constructed condition that limits access to resources, even in environments with seemingly inclusive policies, due to ongoing stigma and administrative ambiguity (30, 31). Administrative Burden Theory (32) enhances this analysis by identifying the learning, compliance, and psychological burdens embedded in policy and institutional design—burdens that undocumented students must manage and that HESA professionals often face when advocating without sufficient institutional authority or guidance (40).

By integrating these frameworks within an ecological model, this study captures the complexity of how policy, institutional structures, and human relationships interact to shape everyday experiences. This approach moves beyond single-actor or single-level analyses, instead recognizing that students' and professionals' pathways are intertwined in ways that both reflect and resist systemic exclusion. In doing so, it positions the empirical analysis to not only document harm but also identify leverage points for institutional and policy interventions that promote equity and well-being.

Methods

Research questions and methods

Building on the integrated ecological framework outlined above, this study employs a qualitative, multi-site case study design to examine how Higher Education and Student Affairs (HESA) administrators navigate the complex interplay of federal, state, and institutional politics surrounding undocumented students. The analysis is guided by the following research question: How do HESA administrators navigate conflicting federal, state, and university policies related to undocumented students?

Sample and site selection

While federal policy has remained largely static in restricting undocumented students' access to postsecondary benefits, state-level responses vary considerably. These policy contexts can be grouped into three broad categories:

1 Inclusive: Tuition Equity States: States offering in-state tuition and/or state-based financial aid to undocumented students.
2 No State Policy: States with no explicit legislation regarding undocumented students' access to higher education benefits, but where some of their public institutions may have implemented inclusive practices toward undocumented students.
3 Prohibitive/Restrictive States: States with policies banning or limiting undocumented students' enrollment (prohibitive), in-state tuition eligibility (restrictive), or access to state financial aid (restrictive).

Thirty participants were interviewed across 15 states and Washington, DC, reflecting a wide range of institutional types and policy climates. The sample included higher education and student affairs (HESA) administrators from international student services, diversity and multicultural affairs, academic advising, legal services, and offices dedicated to undocumented student support, as well as higher education leaders in admissions, enrollment management, and student success initiatives. Most participants worked directly with undocumented students, while others engaged through advising, programming, advocacy, or policy interpretation.

Demographically, the sample was predominantly female (80%) and racially and ethnically diverse, with the majority identifying as Latina/o, Chicana/o, or Hispanic (60%). White/Caucasian participants comprised 20% of the sample, with additional representation from Asian (7%), Black/African American (3%), Native American/Latino (3%), and Jewish diaspora (3%) participants.

Participants were situated in states with varying policy climates: 70% in inclusive contexts (e.g., New Jersey, California, Illinois), 17% in prohibitive contexts (e.g., Georgia, South Carolina), 3% in restrictive contexts (North Carolina), and 10% in states with no statewide policy (Pennsylvania and Michigan, where access is limited to certain public universities). Institution types spanned large public HSIs (50%), medium public HSIs (13%), small private liberal arts colleges (13%), community colleges (10%), large public non-HSIs (10%), and private selective universities, including law and Ivy institutions (10%). Collectively, these participants offered insights into how state and institutional contexts shaped practices, policies, and advocacy for undocumented students in higher education. Table 1 shares participants' demographics and institutional contexts.

Data collection

Data were gathered through 30 in-depth, semi-structured interviews conducted via Zoom between 2021 and 2024. Interviews lasted between 60 and 90 min and were initially transcribed using automated transcription software. Transcripts were then verified against the audio recordings for accuracy and returned to participants for member checking.

In addition to interviews, I collected and analyzed state-level policy documents, legislative summaries, institutional websites, annual reports, and relevant media coverage to develop detailed state policy profiles. These profiles informed the interview protocols and provided critical context for interpreting participants' accounts (41). Data collection concluded prior to the policy shifts initiated by the 47th presidential administration in January 2025.

Recruitment of participants

Drawing on my professional networks as a former HESA administrator and current faculty member in a higher education

TABLE 1 Participant demographics and institutional contexts (N = 30).

Category	Subcategory	n	%
Gender identity	Female / She (incl. She/ella, she/ella/)	24	80%
	Male / He (incl. he/el, him/his)	6	20%
Race/Ethnicity	Latina/o/Chicana/o/Hispanic	18	60%
	White / Caucasian	6	20%
	Black / African American	1	3%
	Asian	2	7%
	Native American/Latino (mixed heritage)	1	3%
	Jewish diaspora	1	3%
State policy climate	Inclusive (e.g., NJ, IL, CT, NY, OR, MA, CA, NV, DC, VA, TX*)	21	70%
	Restrictive (e.g., North Carolina)	1	3%
	Prohibitive (e.g., GA, SC)	5	17%
	No State Policy (e.g., PA, MI**)	3	10%
Institution type	Large Public HSIs (incl. EHSI/ AANAPISI)	15	50%
	Medium Public Institutions (HSI/EHSI)	4	13%
	Small Private Liberal Arts (HWI/HSI)	4	13%
	Community Colleges (public/HSI/CC)	3	10%
	Large Public (non-HSI specified, e.g., land grant)	3	10%
	Private (large, selective, law/Ivy)	3	10%

*Texas is categorized as "Inclusive until 2025" when the policy was changed. **Pennsylvania and Michigan are classified as "No State Policy." Access and tuition equity are limited to certain public universities that have adopted their own inclusive practices.

program, I recruited participants using purposeful and snowball sampling (43). I sought "positioned informants" (42) or individuals whose professional roles afforded them insight into how policy and politics shaped institutional practice. Interview questions explored participants' knowledge of federal and state guidelines, strategies for implementation, and how personal beliefs, organizational priorities, and political contexts informed their decision-making.

Data analysis

Data analysis proceeded in multiple stages, beginning with the development of contextual state profiles to capture variation in policy environments. State profiles were constructed from legislative documents, institutional policies, and public statements and categorized into the three policy contexts described above. These profiles provided an analytic scaffold for comparing institutional and professional practices across policy environments. Interview transcripts were analyzed inductively using a multi-level coding process (44). In the first coding cycle, descriptive and *in vivo* codes were applied to capture participants' own language and surface-level patterns in their narratives. This stage identified broad topical areas such as *policy interpretation*, *student trust*, *emotional exhaustion*, and *institutional advocacy*.

In the second coding cycle, focused coding was employed to synthesize and refine these preliminary codes into analytically robust categories aligned with the study's conceptual framework. Codes were organized across the four ecological levels (i.e., policy, institutional, interpersonal, and individual) and connected to themes such as administrative burden, policy conflict, and professional well-being.

Throughout the process, analytic memos were written after each interview to document emerging insights, link patterns to the ecological framework, and note possible contradictions. Using constant comparative and cross-case analysis (45), I examined how political, institutional, and local factors interacted within and across policy contexts. All coding and analysis were conducted using Dedoose software (Table 2).

Researcher positionality

I have studied the experiences of immigrant students in higher education for over 25 years, beginning my work with undocumented students in 1998. My research has documented the critical role HESA administrators play in providing accurate information on college access and success—from tuition and financial aid guidance to navigating mental health resources. Despite this role, administrators often have little to no formal training on serving undocumented students, yet they bear the responsibility of implementing related policies and practices. Grounded in Dillard's (46) call for research as a responsibility to the communities we engage with, this study centers the voices of HESA administrators to better understand how they navigate these complex policy landscapes.

Findings overview

The findings are organized according to the four ecological levels—policy, institutional, interpersonal, and individual—and interpreted through the three state policy contexts identified in the state profiles: Inclusive—Tuition Equity States, No State Policy States, and Prohibitive/Restrictive States. While thematic patterns emerged across all contexts, their scope, severity, and mechanisms varied. In inclusive states, in-state tuition and state aid reduced some financial barriers but did not eliminate stigma, administrative ambiguity, or the emotional labor required to navigate higher education. In states with no policy, the absence of legislative guidance created institutional inconsistency and left decision-making to individual offices or leaders. In prohibitive/restrictive states, statutory exclusion from enrollment or tuition, combined with hostile political rhetoric, produced acute fear, discouraged disclosure, and intensified psychological costs for both undocumented students and the HESA professionals who support them.

Policy level: conflicting mandates and layered exclusions

Across all contexts, participants described the mental toll of policy contradictions where one level of governance offered a pathway to access while another imposed barriers. This reflected the administrative burden's learning and psychological costs: students and professionals struggled to understand and emotionally process complex and changing rules. For example, in *Inclusive–Tuition Equity*

TABLE 2 Sample codebook.

Code	Description	Example Quote	Ecological level	Policy context
Policy context	References to state policy environment and its perceived inclusivity or restrictiveness	"We're in a restrictive state, it's unclear what we are even allowed to do."	Policy	Prohibitive/Restrictive
Motivation for work	Participant's personal or professional reasons for supporting undocumented students	"I was undocumented myself, and I saw the need in my community."	Individual	All
Student information access	How undocumented students obtain or fail to obtain college-related information	"They usually hear about in-state aid from peers, not staff."	Institutional	Inclusive – Tuition Equity
Office conflict	Tensions between departments or offices regarding undocumented student policies	"Financial aid says one thing, our office says another, and the student is caught."	Institutional	No State Policy
Stressors	Emotional or psychological strain from supporting undocumented students	"It's exhausting to support students when you feel helpless and alone."	Individual	All
Trust building	Efforts to establish trust with undocumented students	"They only share their status when they know they can trust you."	Interpersonal	All

States, while state policies allowed for in-state tuition or aid, students remained ineligible for federal benefits such as financial aid, creating what one administrator called "half-open doors." Professionals described the challenge of explaining these "yes, but…" scenarios without discouraging students. In *No State Policy States*, the lack of explicit policy created a vacuum in which institutional leaders either stepped in with *ad hoc* guidance or avoided the issue altogether. This left HESA professionals without a standard playbook, increasing uncertainty and internal policy conflicts. Finally, in *Prohibitive/Restrictive States,* statutory bans on in-state tuition or admissions are layered on top of federal exclusions, producing an Immigrant Battle Fatigue (IBF) effect. HESA professionals reported that undocumented students experienced chronic stress, fear of exposure, and avoidance of opportunities, leading professionals to operate under a "compliance over care" mandate.

Zara, a professional in a state that, as of 2018, became inclusive, shared her experiences working there amid the threats posed by the DACA rescission (2017) and the incoming 45th administration in 2016. She highlighted the psychological toll:

> "We were told that at any point… the government could just come through our doors and ask for files. We needed to be prepared for that… We are not going to allow this to happen to our students."

Zara recalled that the preparation to support students did not include training and involved protecting students' identities. She recalled fear associated with this time, even though she worked within a state that offered in-state tuition. She not only feared for her students but also feared for her colleagues.

Institutional level: organizational ambiguity and advocacy constraints

Institutional policies and norms either mitigated or amplified state-level dynamics, embodying immigrant illegality when practices reinforced exclusionary logic. For participants in Inclusive States, their campuses often publicized support services, but inconsistent training led to students still encountering misinformation. Some offices acted as strong advocates, while others perpetuated confusion by relying on outdated or incomplete policy knowledge. For administrators in *No State Policy* states, without legislative guardrails, institutional responses depended on campus leaders who were aware of the well-being of undocumented students and their sense of safety on campus. This created supportive spaces or HESA professionals within campuses but left students vulnerable to variable interpretations and procedural roadblocks.

In *Prohibitive/Restrictive* states, participants shared that they had to defer to the most restrictive reading of policy, adding internal barriers beyond those required by law. For example, one participant shared that many institutions in prohibitive states not only prevented undocumented students from in-state tuition and financial aid, but some campuses also required all non-resident students to enroll for classes after the general population enrolled. Professionals described "working around" these systems quietly to avoid drawing political attention.

Participants in inclusive, tuition-equity states faced a similar challenge: working around these systems while also being responsible for creating systems and training. Sara, from a tuition-equity state, shared that she did not receive formal training from her campus and often sought guidance from community-based organizations. She was responsible for sharing this knowledge with her colleagues. She described the informal strategies they developed: "There wasn't a training … we kind of just taught each other how to make sure [undocumented students] were safe and supported." Tina, also in an inclusive, tuition-equity state, emphasized the importance of nuanced categorization in advocacy work: "I separate [students] by employment authorization, DACA recipients, or TPS asylum individuals, and students who could not apply to DACA … cannot change their immigration status."

Interpersonal level: trust as selective currency

Relationships between students and staff reflected the interpersonal transmission of administrative burden—where trust, once established, eased navigation, but the scarcity of safe relationships concentrated emotional labor on a few individuals.

Participants from Inclusive States shared that students were more willing to disclose status to designated staff or cultural centers, but this trust was still selective and had to be earned over time. This meant

consistent outreach from participants to the general campus, to be "found." Tina, in an inclusive state, explained her tailored approach:

"It's a very different experience for undocumented students … seeing what they need and how to tailor those needs so they could be helped as soon as they walk in." Campuses with free legal services (found in inclusive contexts) were able to operationalize trust-building into tangible protections. Participants often worked with lawyers or clinics on their campus, which created more centers of support and overt outreach.

Participants in *No State Policy* states found that disclosure was inconsistent, depending on students' perception of a staff member's discretion and how well it aligned with advocacy values. Professionals sometimes discovered a student's status only after a crisis occurred. A similar pattern appeared in *Prohibitive/Restrictive* states, where disclosure was rare and typically happened in high-stakes situations (e.g., financial holds or absences from class). Staff seen as allies took on extra advising, emotional support, and problem-solving tasks. In restrictive states, such resources were limited or discreet, underscoring the uneven geography of institutional care.

Individual level: coping, withdrawal, and professional exit

At the individual level, participants' accounts reflected the embodied outcomes of IBF and immigrant illegality—showing decision fatigue, avoidance, and self-withdrawal among students, and burnout or role abandonment among professionals. In Inclusive States, professionals expressed concern about undocumented students' ability to persist in their studies, describing constant vigilance, especially regarding disclosing their status in classrooms or applications. Many participants in this study also engaged in advocacy, particularly those who are immigrants or were undocumented, but worried about the long-term emotional toll. Nonetheless, all participants in inclusive states recognized that their colleagues in restrictive or prohibitive states faced tougher challenges and preferred to work within inclusive states. Despite these layered feelings, participants were concerned about leaving their roles, fearing that their work would leave with them and create a vacuum.

For participants in *No State Policy* states, uncertainty fostered frustration and fear. Professionals described a feeling of "treading water" without institutional support, and some questioned whether their roles could be sustained. In Prohibitive/Restrictive states, participants noted that ongoing exclusion and hostile environments created hopelessness among students and demoralization among advocates, who often considered leaving the institution or sector entirely. However, all professionals acknowledged the privilege of mobility—the ability to move to safer spaces—a privilege their students could not access, highlighting the disparities across different settings.

Discussion

An ecological perspective on Immigration Battle Fatigue (IBF) provides a framework for understanding how exclusionary systems function through policy, institutional inertia, and interpersonal tension. It emphasizes the dual burden on students and Higher Education and Student Affairs (HESA) professionals, as well as the urgent need for coordinated campus responses. These burdens result from policy design and administrative choices.

These findings underscore the complex and multifaceted nature of psychological costs in higher education for both undocumented students and the HESA professionals who support them. At every level—policy, institutional, interpersonal, and individual—the experiences of HESA professionals who work with undocumented students reveal the cumulative effects of administrative burden and immigration-related fatigue.

At the policy level, conflicting mandates and exclusionary practices create ongoing fear and confusion, fueling psychological distress. Zara's detailed accounts of the threats caused by federal policies during the Trump administration illustrate how these worries can deeply affect the work environment and the overall campus climate. Such policies lead to disengagement among students and burden staff who feel compelled to operate in a climate of fear and silence.

At the institutional level, the lack of consistent procedures and clear messaging worsens these challenges. HESA professionals like Sara described the absence of formal training and the patchwork methods they use to support students in crisis. These experiences align with findings that show how inconsistent institutional practices and unclear guidance lead to confusion, stress, and unfair outcomes for undocumented students (38). Additionally, the burden of advocacy and "invisible labor" performed by staff like Tina illustrates organizational practices that lead to burnout and staff turnover. Many of these HESA professionals do this work without recognition or staff support, which leaves them feeling helpless and unsure if their efforts are making a difference.

At the interpersonal level, trust and safety are key themes. Tina's story about providing tailored support and free legal services on her campus emphasizes the importance of creating safe spaces for undocumented students. However, relying on individual staff members for trust-building also places a heavy emotional burden on those perceived as "safe," which can lead to secondary trauma and compassion fatigue (13). Sara's example of finding a workaround for stipends shows the innovative strategies HESA professionals use in the absence of institutional support, highlighting both their dedication and the unsustainable nature of this work.

The psychological impact of these cumulative barriers is clear at the individual level. Undocumented students reported feeling disengaged and withdrawing due to constant stress and uncertainty, aligning with previous research on decision fatigue and the internalization of illegality (38). HESA professionals also shared feelings of helplessness and burnout, questioning whether their work is sustainable in institutions that often lack structural support. As some participants noted, unlike staff who might leave for more supportive environments, undocumented students do not have the same mobility or privilege to leave, which deepens the inequalities involved.

Implications and future directions

These findings demand urgent action on multiple levels. Policies that generate fear and confusion (such as in-state tuition exclusions and admissions bans) need to be challenged and

reformed to guarantee equal access to education and lessen the psychological stress on students and staff. At the institutional level, universities must acknowledge the diversity within immigrant student populations and commit to comprehensive training, clear protocols, and structural support for undocumented students and their advocates. Trauma-informed practices, consistent messaging, and compensating staff for the unseen labor of advocacy are vital steps forward.

Further research should continue examining the dual burden of immigration-related fatigue on undocumented students and HESA professionals, especially amid changing political landscapes and policy shifts. Expanding the IBF framework to include intersectional identities (e.g., race, gender, and health status) would provide even deeper insights into the complex experiences of burden and fatigue. Ultimately, addressing these psychological costs requires fostering individual resilience, systemic reform in policy and campus structures, and professional practices to create truly equitable and safe educational environments for undocumented students.

Data availability statement

The datasets presented in this article are not readily available because participants were offered confidentiality. Requests to access the datasets should be directed to vegab@montclair.edu.

Ethics statement

The studies involving humans were approved by Montclair State University IRB. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

BV: Writing – review & editing, Writing – original draft.

Funding

The author(s) declare that financial support was received for the research and/or publication of this article. This brief research report was funded in part by Spencer Foundation Grant #202300160.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declare that no Gen AI was used in the creation of this manuscript.

Any alternative text (alt text) provided alongside figures in this article has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

Publisher's note

References

1. Higher Education Immigration Portal. (2022). State data. Available online at: https://www.higheredimmigrationportal.org (Accessed August 1, 2025).

2. FWD.US (2023). The post DACA generation. Available online at: https://www.fwd.us/news/undocumented-high-school-graduates/ (Accessed August 1, 2025).

3. Lipson SK, Zhou S, Abelson S, Heinze J, Jirsa M, Morigney J, et al. Trends in college student mental health and help-seeking by race/ethnicity: findings from the national healthy minds study, 2013–2021. *J Affect Disord*. (2022) 306:138–47. doi: 10.1016/j.jad.2022.03.038

4. Dombou C, Omonaiye O, Fraser S, Cénat JM, Fournier K, Yaya S. Barriers and facilitators associated with the use of mental health services among immigrant students in high-income countries: a systematic scoping review. *PLoS One*. (2023) 18:e0287162. doi: 10.1371/journal.pone.0287162

5. Martinez O, Wu E, Sandfort T, Dodge B, Carballo-Dieguez A, Pinto R, et al. Evaluating the impact of immigration policies on health status among undocumented immigrants: a systematic review. *J Immigr Minor Health*. (2015) 17:947–70. doi: 10.1007/s10903-013-9968-4

6. Ornelas IJ, Yamanis TJ, Ruiz RA. The health of undocumented Latinx immigrants: what we know and future directions. *Annu Rev Public Health*. (2020) 41:289–308. doi: 10.1146/annurev-publhealth-040119-094211

7. Nienhusser HK, Vega BE, Saavedra Carquin M. Undocumented students' experiences with microaggressions during their college choice process. *Teach Coll Rec*. (2016) 118:1–33. doi: 10.1177/016146811611800208

8. Long D. The foundations of student affairs: a guide to the profession In: LJ Hinchliffe and MA Wong, editors. Environments for student growth and development: Librarians and student affairs in collaboration. Chicago, IL: Association of College & Research Libraries (2012). 1–39.

9. Wright-Mair R, Saadeddine R, Peters C, Elmes A. Higher education and student affairs master's students' perceptions of their preparation for scholarly practice and implications for program improvement: a mixed methods case study. *Coll Stud Aff J*. (2022) 40:13–32. doi: 10.1353/csj.2022.0012

10. Garcia CE, Walker W, Morgan D, Shi Y. Aligning student affairs practice with espoused commitments to equity, diversity, and inclusion. *J Coll Stud Dev*. (2021) 62:137–53. doi: 10.1353/csd.2021.0013

11. Pérez II, D, Ashlee KC, Do VH, Karikari SN, Sim C. Re-conceptualizing student success in higher education: reflections from graduate student affairs educators using anti-deficit achievement framework. *J Excell Coll Teach*. (2017) 28, 5–28. doi: 10.1080/01419870.2022.2062251

12. Luedke CL, Corral D. Supportive or exclusive? Institutional agents and undocumented Latina/o college students in the Midwest. *J Coll Stud Dev*. (2021) 62:575–90. doi: 10.1353/csd.2021.0051

13. Hoy ZRM, Nguyen DHK. Compassion fatigue in student affairs practitioners working with undocumented college students. *Coll Stud Aff J*. (2020) 38:126–42. doi: 10.1353/csj.2020.0007

14. Immigrants Rising. (2024). Defining undocumented [Handout]. Immigrants Rising. Available online at: https://immigrantsrising.org/resource/defining-undocumented/ (Accessed on June 8, 2025)

15. Immigrants Rising. (2024). Overview of undocumented students [Handout]. Immigrants Rising. Available online at: https://immigrantsrising.org/resource/overview-of-undocumented-students/ (Accessed on June 8, 2025)

16. Plyler. Doe, 457 U.S. 202 (1982). Available online at: https://www.oyez.org/cases/1981/80-1538 (Accessed August 1, 2025).

17. Nienhusser HK, Romandia O. Undocumented college students' psychosocial well-being: a systematic review. *Curr Opin Psychol*. (2022) 47:101412. doi: 10.1016/j.copsyc.2022.101412

18. Garcini LM, Daly R, Chen N, Mehl J, Pham T, Phan T, et al. Undocumented immigrants and mental health: a systematic review of recent methodology and findings in the United States. *J Migration Health*. (2021) 4:100058. doi: 10.1016/j.jmh.2021.100058

19. Suárez-Orozco C, López Hernández G. "Waking up every day with the worry": a mixed-methods study of anxiety in undocumented Latinx college students. *Front Psychol*. (2020) 11:568167. doi: 10.3389/fpsyt.2020.568167

20. Cha BS, Enriquez LE, Ro A. Beyond access: psychosocial barriers to undocumented students' use of mental health services. *Soc Sci Med*. (2019) 233:193–200. doi: 10.1016/j.socscimed.2019.06.011

21. Baumrucker EP, Kolker AF. Noncitizen eligibility for Medicaid and CHIP (CRS In Focus No. IF11912). Hershey, Pennsylvania, USA: Congressional Research Service (2025).

22. Dadras O, Hazratzai MS. The silent trauma: US immigration policies and mental health. *Lancet Regional Health–Americas*. (2025) 44:100768. doi: 10.1016/j.lana.2025.100768

23. Salazar C, Nader C, Zuñiga JDV, Viruel AR. Promoting culturally engaging campus environments for undocumented students: the role of institutional agents. *Innovative Higher Educ*. (2025) 50:1247–80. doi: 10.1007/s10755-025-09723-7

24. Vega B. E., Talamo A., Coleman C. (2024). The importance of mental health training in faculty development. ACPA Developments. Available online at: https://developments.myacpa.org/private7J9pRkXzLq/29/the-importance-of-mental-health-training-in-faculty-development-vega-talamo-coleman/2345/ (Accessed August 1, 2025).

25. Camilo D. Culturally responsive college application advising for undocumented immigrant students In: MA Rausch and LL Gallo, editors. Strengthening school counselor advocacy and practice for important populations and difficult topics. Hershey, Pennsylvania, USA: Information Science Reference/IGI Global (2021). 62–84.

26. Enriquez LE, Vazquez Vera D, Ramakrishnan SK. Driver's licenses for all? Racialized illegality and the implementation of progressive immigration policy in California. *Law & Policy*. (2019) 41:34–58. doi: 10.1111/lapo.12109

27. Vega B. E. (2023). Undocumented students and related policies in region 2 states. NASPA Blog Available online at: https://www.naspa.org/blog/undocumented-students-and-related-policies-in-region-2-states (Accessed August 1, 2025).

28. Smith WA. Black faculty coping with racial battle fatigue: the campus racial climate in a post-civil rights era In: D Cleveland, editor. A long way to go: Conversations about race by African American faculty and graduate students. New York, NY: Peter Lang (2004). 171–90.

29. Smith WA, Hung M, Franklin JD. Racial battle fatigue and the miseducation of black men: racial microaggressions, societal problems, and environmental stress. *J Negro Educ*. (2011) 80:63–82.

30. Del Real D. Seemingly inclusive liminal legality: the fragility and illegality production of Colombia's legalization programmes for Venezuelan migrants. *J Ethn Migr Stud*. (2022) 48:3580–601. doi: 10.1080/1369183X.2021.1953501

31. Menjívar C, Agadjanian V, Oh B. The contradictions of liminal legality: economic attainment and civic engagement of central American immigrants on temporary protected status. *Soc Probl*. (2022) 69:678–98. doi: 10.1093/socpro/spab017

32. Herd P, Moynihan DP. Administrative burden: Policymaking by other means. Russell Sage Foundation. (2019).

33. American College Health Association. (2021). *National College Health Assessment (NCHA): Reference group executive summary spring 2021*. American College Health Association.

34. Enriquez L. "Because we feel the pressure and we also feel the support": Examining the educational success of undocumented immigrant Latina/o students. *Harv Educ Rev*. (2011) 81:476–500.

35. Lauby F. "Because she knew that I did not have a social": Ad hoc guidance strategies for Latino undocumented students. *J Hisp High Educ*. (2017) 16:24–42. doi: 10.1177/1538192715614954

36. Díaz-Strong DX, Moreno DG. Undocumented students' uneven access to financial aid resources: How existing resources reinforce deservingness. *Educ Policy Anal Arch*. (2025) 33:Article 126. doi: 10.14507/epaa.33.8804

37. Enyioha JC. College access for undocumented students and law. *Educational Considerations*. (2019) 45:7. doi: 10.4148/0146-9282.2168

38. Vega BE, Nienhusser HK, Carquin-Hamichand MS. "When I would hurt": Undocumented students' responses to obstacles faced during the college choice process. *Ed Forum*. (2022) 86:237–252. doi: 10.1080/00131725.2021.2020944

39. Enriquez LE. A "master status" or the "final straw"? Assessing the role of immigration status in Latino undocumented youths' pathways out of school. *J Ethnic Migr Stud*. (2017) 43:1526–1543. doi: 10.1080/1369183X.2016.1245608

40. Halling A, Bækgaard M. Administrative burden in citizen–state interactions: A systematic literature review. *J Public Adm Res Theory*. (2023) 34:180–195. doi: 10.1093/jopart/muad019

41. Yin RK. *Case study research and applications: Design and methods* (6th ed.). SAGE Publications. (2018).

42. Kezar A. Reconstructing static images of leadership: An application of positionality theory. *J Leadersh Stud*. (2002) 8:94–109. doi: 10.1177/107179190200800308

43. Patton MQ. *Qualitative evaluation and research methods* (2nd ed.). SAGE Publications. (1990).

44. Saldaña J. *The coding manual for qualitative researchers* (3rd ed.). SAGE Publications. (2016).

45. Miles MB, Huberman AM. *Qualitative data analysis*: An expanded sourcebook (2nd ed.). SAGE Publications. (1994).

46. Dillard CB. *On spiritual strivings: Transforming an African American woman's academic life*. State University of New York Press. (2006).

47. Bronfenbrenner U. *The ecology of human development: Experiments by nature and design*. Harvard University Press. (1979).

48. Gonzales RG. *Lives in limbo: Undocumented and coming of age in America*. Univ of California Press. (2016).

frontiers | Frontiers in Sociology

TYPE Brief Research Report
PUBLISHED 10 October 2025
DOI 10.3389/fsoc.2025.1661399

OPEN ACCESS

EDITED BY
James Ferreira Moura Junior,
University of International Integration of Afro-Brazilian Lusophony, Brazil

REVIEWED BY
Wonki Lee,
Purdue University, United States
Lynette Yarger,
The Pennsylvania State University (PSU), United States

*CORRESPONDENCE
Maria Isabel Roldós
mariaisabel.roldos@lehman.cuny.edu

RECEIVED 10 July 2025
ACCEPTED 22 September 2025
PUBLISHED 10 October 2025

CITATION
Reynoso K, Ismail F, Ávila D and Roldós MI (2025) Unveiling the master narratives of a sample of STEM students at an urban public college in New York City.
Front. Sociol. 10:1661399.
doi: 10.3389/fsoc.2025.1661399

Unveiling the master narratives of a sample of STEM students at an urban public college in New York City

Krystal Reynoso[1], Fadel Ismail[1], Daniela Ávila[1] and Maria Isabel Roldós[1,2]*

[1]Lehman College, Bronx, NY, United States, [2]CUNY Institute for Health Equity, Bronx, NY, United States

This brief research report presents how rigid STEM narratives are perceived by undergraduate students from diverse backgrounds at an urban Minority Serving Institution (MSI) in NYC. This research focuses on student voices and reveals the unique challenges, motivations, and strengths they bring to STEM. A total of 15 peer to peer qualitative interviews were conducted between May and December of 2024. Content analyses using an inductive approach was used to cross code between the interviewers and student participants using content analyses revealed key themes such as: the importance of time management support, diverse mentorship, the role of parents and family members, among others. Findings illustrate that representation and authentic support significantly impact student success. Recommendations to address barriers and proposals of supportive solutions designed to break down STEM stereotypes to serve undergraduate students from diverse backgrounds.

KEYWORDS

STEM, MSI, immigrant students, narratives, NYC 4

1 Introduction

Scientific advances are fueled by diverse perspectives. U.S. philosopher Thomas S. Kuhn proposed in his iconic book, *The Structure of Scientific Revolutions* (1962) (Kuhn, 2012), that science advances are stifled when paradigms that guide the scientific query are unchallenged (Ferrini-Mundy, 2013). In fact, he argues: "science advances results from the 'development-by-accumulation' of accepted facts and theories" (Kuhn, 2012; Kindi and Arabatzis, 2013). To this end, diversity in perspectives has the potential to increase the scientific quality of arguments and spark a stronger thought toward scientific innovation.

The voices of diversity in 2025 are very much different than those in 1965 when Kuhn proposed this hypothesis. The U.S. Census Bureau estimate the nation's population is close to 345 million people in 2025, which is a 2.93% increase since Census Day on April 1, 2020 (US Census Bureau, 2024). Migration continues to be a key driver of population growth, in addition to a higher birth rate among migrants (Camarota and Zeigler, 2021). Highly skilled immigrants (first- or second-generation) in STEM fields may provide a competitive edge and may increase the innovative capacity of the United States. In 2019, immigrants comprised 28% of the college-educated STEM workforce, with over 45% holding STEM doctoral degrees (National Center for Science and Engineering Statistics, 2023). The value of diversification of academics in STEM is crucial and warranted from different yet interlinked perspectives such as social justice, economic competitiveness, and scientific quality (Xie, 2024).

Minority serving institutions (MSIs) play a crucial role among first- and second-generation immigrant background students to earn a baccalaureate STEM degree, but not necessarily to earn a doctoral degree in STEM. A review of the InfoBrief from National Center for Science and Engineering Statistics in 2023 indicate that Black, Hispanic, and AIAN doctorate recipients from 2010 to 2020 disproportionately earned a bachelor's degree from minority-serving institutions [National Science Foundation (NSF), 2023]. Therefore, it is crucial to learn what MSIs can do to promote post-baccalaureate education among first- and second-generation immigrant background students.

This study is a qualitative investigation of the perceptions, motivations, and barriers to enrollment and graduation among a sample of currently enrolled students in STEM-related majors in a MSI urban campus in New York City.

2 Methods

This project recruited 15 currently enrolled STEM students from Biology, Chemistry, Mathematics, Computer Science, and Health Sciences to explore perceptions, motivations, and barriers to enrolling, retention and graduating in STEM-related programs. This project received IRB approval number 2024-0544 and Title: Understanding perceptions, motivations and barriers to enrolling, staying enrolled and graduating in STEM careers among Lehman college students.

2.1 Research framework

The praxis of inquiry is Intersectionality. Intersectionality is a sociological framework that analyzes how various systems of power and oppression, such as racism, sexism, and classicism, overlap and intersect creating unique and multifaceted experiences of social inequality (Taj and Ashraf, 2024). It emphasizes that an individual's identities, like race, gender, and socioeconomic status, collectively shape their lived experiences (Carter and Seaton, 2025). Furthermore, intersectionality unveils how to operatively manage cultural complexities (Hays, 2024) and understand forms of discrimination that may result in disadvantages for those with overlapping marginalized identities (Taj and Ashraf, 2024; Collins and Bilge, 2016). Using intersectionality as the framework for inquiry, this study conducted qualitative semi-structured interviews to explore student's perceptions and considerations of enrolling in STEM careers, as well as barriers and incentives to remaining enrolled and graduating in these fields.

2.2 Recruitment

The recruitment was done using peer referrals. The principal investigator of this project recruited 3 STEM students as research assistants (RAs) for the NSF grant titled "Collaborative Research HSI_HUBs: Intersectionality in STEMs." Each RA recruited between 4 and 5 peers in their field to interview. The inclusion criteria for the study were that students were required to be currently enrolled in a STEM-related field at the MSI campus and being over the age of 18 years. Consent to participate was collected at time of recruitment.

The recruitment used a purposive, peer-referral sampling led by three undergraduate RAs who each recruited peers in their field. Interviews were conducted on Zoom between Summer and Fall 2024, in English, averaged ~60 min, and participants received a $20 Amazon e-gift card.

2.2.1 Sample size and saturation

The research team judged the sample size as adequate when thematic saturation was reached. Interviews were conducted mainly during the summer months with less availability of students on campus. To this end, 4-5 interview per interviewer in the STEM discipline proved to be sufficient to capture student's narratives. The research team cross-referenced the reading of the narratives by reading each other's interviews. The research team discussed the emerging themes. If themes were not identified, additional interviews were conducted (one per RA) to confirm that no new themes appeared. On this basis, 15 interviews were sufficient for the goals of this project.

2.3 Semi-structured Interviews

The semi-structured interviews followed a research protocol that mimics a conversation between two-peers to seek to collect a "narrative" of storytelling that describe students' experiences. Interviews were conducted via zoom during a time agreed between the RA and the student. No individual identifier information was collected. Participants used a pseudo-name during the interview and cameras-on were optional. The intersectional variables associated with socioeconomic status were gender, age, family income, race or ethnicity, family support, place of birth, nativity, and school or degree program at the College. RAs took brief field notes after each session to capture contextual details and early analytic memos.

Based on findings of the literature on intersectionality, higher education and from extensive discussion between the RAs of the study, the following narratives and counter-narratives in STEM education were explored in the semi-structure interviews:

- STEM is for White and Asian Men (Allen et al., 2022).
- STEM comes from Innate Geniuses (Covarrubias et al., 2019).
- STEM is a Pure Meritocracy (Weston et al., 2019).
- STEM is a "Weed-Out" Culture (Weston et al., 2019).
- STEM is Objective and Apolitical (Allen et al., 2022; Rodriguez et al., 2017).
- STEM is Separate from Culture and Identity (Rodriguez et al., 2017).

The methodology entailed discussing the STEM stereotypes described above through the lens of the participant's lived experiences. To this end, participants explored the following:

- How do students at an urban MSI perceive STEM stereotypes?

- What challenges and opportunities do they encounter in STEM fields?
- How does the MSI environment influence their STEM identity and persistence?

2.4 Data analysis

The data analysis used inductive thematic analysis. Best practices from step-by step Qualitative content analysis was used (Mayring, 2021). The three undergraduate RAs generated data-driven codes in Excel/Word, then met to build a shared codebook, compare interpretations, and refine theme boundaries. All transcripts were consensus-coded; disagreements were resolved through discussion. We enhanced trustworthiness through regular analytic meetings and peer debriefing with the faculty mentor, and by keeping brief notes on coding decisions. Intersectionality provided the interpretive lens for relating emergent themes to gender, race/ethnicity, immigrant background, and socioeconomic status.

3 Results

A total of 15 semi-structured qualitative interviews were conducted, and close to 50% of all interviews were from students in Biology and Chemistry majors. Interviews were centered around their perceptions, and barriers to enrolling, staying enrolled, and graduating. Results revealed significant insights regarding the need for an intersectional approach to identify the challenges among STEM students and provide a framework to propose solutions to address these challenges.

Specifically, this project focused in identifying factors that encircle marginalized minority groups and their experience in STEM. The themes identified in the review of the interviews include:

3.1 Ancestry and Background (Motivation and Family Sacrifice).
3.2 Family and Social Environment on Career Choices.
3.3 Challenges Time Management and Balancing Responsibilities.
3.4 Expectations of STEM students.
3.5 Exposure/Accessibility to STEM-related Extracurriculars; Mentorship and Outreach; Academic support.

To illustrate the importance of each themes identified, selected quotes are presented in the sections that follow.

3.1 Ancestry & background (motivation and family sacrifice)

Under this category, two sub-themes were identified: (1) *Parental Sacrifices and High Expectations* and (2) *First-Generation College Experience and Lack of Parental Guidance*. Each of the following quotes exemplifies students' sentiments and the role of their ancestry in choosing a career in STEM.

> Participant 103: *"Essentially, as a first-generation college student, parents don't really know what college means, and the value of college. As all they can really see is, as long as you have a job, that's all that really matters to us."*
>
> Participant 201 - *"They [my parents] have very high expectations for me because, you know, they sacrificed everything to come here so that their children could have the life that they didn't have, so they always make sure that I'm doing well in school, and they… made it clear to me that education is number one."*

This finding is well within the literature of the expectancy-value model of motivation achievement which posits that motivation is influenced by social-cognitive variables such as self-efficacy and beliefs about the usefulness or utility of task (Dotterer, 2022). In this case, the self-efficacy of students is proven in the quotes of the participants of this study. Students expressed the usefulness of their sacrifice as perceived by their parental figures as the most useful. Research supports that parent involvement can promote children's self-efficacy which is important for having STEM interest and persisting in a STEM field (Amarnani et al., 2018). This model applied in this study helped to understand the factors that contribute to racial/ethnic minority adolescents' STEM interest and achievement, suggesting that parental involvement was the most predictive of the variables, as linked to self-efficacy. Therefore, parental involvement in STEM helps adolescents to feel more confident in their STEM abilities but it does not necessarily contribute to adolescents' STEM utility values (Dotterer, 2022; Amarnani et al., 2018).

3.2 Family and social environment on career choices

The semi-structured interviews revealed six sub-themes related to family and culture. Specifically, participants described differences in expectations based on both culture and gender. Students emphasized the importance of family or community members as role models, particularly those with exposure to STEM careers or knowledge, as key motivators for entering or staying in STEM fields. Peers, faculty, or mentors were mentioned less often in influencing college or major choices. A few participants, however, highlighted their peers as role models. Table 1 illustrates each sub-theme with a participant's quote.

A systematic narrative review of 55 articles that assessed the effects of role models on students' STEM motivation as a function of several features of the role models (their perceived competence, their perceived similarity to students, and the perceived attainability of their success) and the students (their gender, race/ethnicity, age, and identification with STEM) found that students and models need to be carefully studied (Gladstone and Cimpian, 2021). There is no one-size fits all. The majority-group of STEM role models are less-than-effective motivators for marginalized students because they highlight the stereotypes differences and may conclude in students feeling unwelcomed. In contrast, underrepresented-group STEM role models may not activate similar threats in majority-group students, who are

10.3389/fsoc.2025.1661399

TABLE 1 Family and social environment on career choices themes and participant's quotes.

Sub-theme category	Participant's quote
Family stressors	*"So, I think I put too much on my plate, and I try and do all these different things at once, and so it just gets stressful. Then I'd have my mind in too many different places. Not only am I a double major, but I also work about 20 h a week, and then I work in tutoring on campus. So, students see me in the library when I'm trying to study, and people come up to me. You know this too, but it's just hard to say no. I like to help people when I can, and I suck at saying no, so I like to give all my time away, and then it leaves less time for me to study. So, not having enough time for myself really demotivates me. It puts me in a depressed mindset. "*
Cultural and gender expectations	*"As far as they tell me, they're very proud of me, but they're always telling me not to do it because, as a woman, it's going to be very difficult for me to do that and take care of the house."*
Role models and family influence on stem motivation	"*My uncle, actually, he's an engineer. And that kind of inspired me, because I think he's the only one that went to college on my mom's side of the family. So that really inspired me to pursue a degree in STEM."*
Exposure to STEM through family members	*"The people I surround myself with. A lot of them are STEM-oriented... we have similar interests, and when other like-minded individuals are working toward it, it makes you want to work toward it as well."*
Peer influence and support networks	
Role of professors, advisors, and mentors	*"Some professors go out of their way to make sure you understand the material. My organic chemistry professor, in particular, was a huge help. I went to every office hour."*

TABLE 2 Challenges time management and balancing responsibilities and participant's quotes.

Sub-theme category	Participant's quote
Sentiments of an overwhelming life	*"I was taking 18 credits, and I was working 2 jobs, and it was crazy. I was working at Staples, and then I was also tutoring, and it was just a lot... I would have class one day, and then I would leave and do my shift at Staples, and then... tutoring right after."*
Jobs, burnout and procrastination	*"Both of [my jobs] take time, and one of them takes more brain energy than the other... but still, sometimes it takes a toll on your mind." "Sometimes midterm season, final season with all the tutoring and stuff, I felt like my brain was fried... you're processing so much information, teaching information, but then you gotta study for another exam."*
Managing STEM coursework takes significant time	*"Understanding the course itself is quite difficult. Chemistry is not exactly easy... if you're a student who works and does a lot of other things, it's hard to keep balance."*

generally unlikely to question their place in STEM and might therefore see the role model simply as an inspiring adult whose success they can try to emulate (Gladstone and Cimpian, 2021). Therefore, what role model is more applicable to the students from this study is differentiated by gender than race, with a note that boys or young men from a minority or immigrant background are knowingly different. In that sense, role models from underrepresented groups that apply more than one motivator may result in a net motivation gain on average and avoiding sticking to a single motivation model (Gladstone and Cimpian, 2021; Tal et al., 2024).

3.3 Challenges in time management and balancing responsibilities

Most of the students expressed challenges related to time management and work-school-family balance. Three sub-themes were identified: overall sentiments of an overwhelming life, job-related burnout and procrastination, and difficulties managing the time demands of STEM coursework (Table 2).

These sentiments are not unique to students in this study. Student stress and anxiety are frequently cited as having negative effects on students' academic performance (Hsu and Goldsmith, 2021). In fact, stress and anxiety are known as major challenges facing college students with more than one-third of all college students report experiencing stress and impact their academic performance within the past academic year (Morey and Taylor, 2019). Some of the research suggest that instructors and professors can play a role in mitigating these challenges (Hsu and Goldsmith, 2021). Evidence-based strategies that instructors can employ span a range of approaches, from modifying instructional techniques to empowering students with different mindsets and tools that they can use to alleviate stress (Morey and Taylor, 2019; Myers et al., 2012).

3.4 Expectations of STEM Students by STEM students

Participants in this sample expressed that they experience high, often unrealistic expectations as STEM students. These include overworking through extracurricular activities and feeling pressured to apply to competitive programs or internships. Some of the quotes include:

> *"Doing extracurriculars, in addition to my college program, I get to meet a lot of people. I get to network... I still feel like I need to do more volunteering, more research to get into med school—that's my goal."*
>
> *"I expect a lot from myself because I know what I'm capable of... Even if I struggle, I feel like I have to keep proving that I belong here."*
>
> *"I think I can definitely like, create a lot of pressure for myself... I also doubt the ability to get where I want to go... those doubts, and also those comparisons can oftentimes... shoot me down."*

This finding is aligned with the literature of college students in STEM disciplines in that they are increasingly faced with highly competitive and demanding degree programs and are at risk of academic overconfidence (Hall and Sverdlik, 2016). Due to this risk, students report that having high ability in science disciplines are also likely to experience academic pressure

TABLE 3 Exposure to STEM extracurriculars and mentorships and participant's quotes.

Sub-theme category	Participant's quote
Strong mentorship and academic support exist, but are underutilized	*"I think for the most part, the professors are really good. They care a lot about the students and how they perform in their class. You can tell it's not just because they want a good rating or review, it's because they genuinely want you to succeed."*
Research and extracurricular opportunities are available but need more awareness	*"More offers for research. I think a lot of students like research, more so than maybe the actual classes and stuff... I think all departments should offer more opportunities for research and really advocate for them."*
Some students feel a strong sense of community	*"I'm very comfortable here. It's close to my work and house, but it's not only that. I'm comfortable with the professors that I've had. I'm comfortable with my peers. I've created a good group here." "… We're all struggling with the same things, either with coursework, life, or just work in general. So, I feel like we can all get along and bond on that aspect."*
Students rely on peer networks for academic success	*"I like to surround myself with peers that have more effective studying techniques... The way I study best is around people. If I study alone, I feel like I'll only study what I know. I like to take from what other people do."*

and associated physical and psychological distress (Webb et al., 2002). Important to this research is to identify the factors that may contribute to racial disparities in STEM participation beyond academic preparation related to added stress or unrealistic expectations. Some research suggest that first-year STEM students tend to overestimate their performance in general, and subsequent analyses indicate that students who overestimate are more likely to switch out of STEM (Park et al., 2023) and some race-based differences in overestimation can be explained by pre-college academic and high school a student attended (Park et al., 2023).

3.5 Exposure/accessibility to STEM-related extracurriculars; mentorship and outreach; academic/communal support

Themes related to the university infrastructure, including faculty mentorship and research capacity, in addition to peer- and community-environment were identified as important factors to remaining in a STEM major. Table 3 illustrates each of the sub-themes in this category.

Mentoring initiatives for undergraduate and graduate students is vast, and there are many programs that support students from a minority background (Nkrumah and Scott, 2022). Under the intersectionality framework mentoring programs must include multiple intersections. This manifold approach call for the attention that understands power, challenges social context, and interrogates oppressive structures and mentors and mentees, as well as other individuals in higher education (e.g., staff and administrators) addressing hierarchies (Nkrumah and Scott, 2022).

4 Discussion

Family members are the most important factors to enroll in a STEM major, while their peers and supportive institutional networks were identified as the most important to remain in a STEM major. Most students expressed challenges related to time management and work-school-family balance as the main challenge to staying in a STEM career. The narratives of high expectations for students in STEM majors were upheld by those in the sample to the point where participants expressed a risk for burnout.

Specific recommendations to each of the issues identified in the themes above are detailed below into 5 categories. These categories were adapted from Hsu and Goldsmith (2021):

1. Learning and preparing to act.
   - **Leverage Family Influence for STEM Motivation**. Schools can strengthen mentorship initiatives by connecting students with professionals from similar backgrounds to reinforce STEM career possibilities.
   - **Promote peer mentoring programs**. Many students benefit from study groups and peer mentoring, but not all students know how to access these resources. Schools should promote structured peer mentoring programs for students in challenging STEM courses.

2. Connecting with students.
   - **Provide Gender-Specific Support in STEM**. Programs aimed at empowering women in STEM should address traditional barriers and provide mentorship opportunities.
   - **Need for More Flexible Scheduling and Support**. Colleges should offer more flexible class options (online, evening classes) to help students balance work and school. Furthermore, study groups and peer-led tutoring should be encouraged to help students manage heavy STEM coursework.

3. Building an empowering atmosphere in the classroom.
   - **Provide First-Generation Support Services**. Colleges should provide tailored support to first-generation students, including guidance on navigating academic expectations and career paths.
   - **Provide Financial Aid Awareness and Assistance**. More outreach is needed to help students and families understand financial aid options and scholarships.

4. Reducing testing anxiety.
   - **Provide Culturally Inclusive Career Counseling**. Advising programs should address family expectations and career misconceptions, especially for those in fields requiring extended education.
   - **Expand Time Management and Mental Health Support**. Workshops on study skills, time management, and stress

reduction should be promoted. Colleges should provide more awareness about mental health resources for burnout prevention. Students also deal with competition, imposter syndrome, and academic pressure. Schools should offer stress management and resilience workshops. Professors should emphasize that one bad grade does not define a student's STEM career.

- **Rethinking Job and Study Balance**. More on-campus employment opportunities related to STEM should be created, as being a TA/tutor has helped some students academically. Schools could introduce more paid research opportunities so students don't have to choose between income and academics.

5. Promoting effective academic skills.

- **Enhance Mentorship and Peer Networks**. Programs that connect students with professionals in STEM could strengthen retention and engagement. Organize Peer-led study groups and mentorship initiatives should be expanded.
- **Faculty-Driven Support and Advising**. Professors and advisors should continue offering structured academic guidance, especially in challenging STEM courses.
- **Improve Access to Research and Internship Opportunities Without Overwhelming Students**. Schools should provide structured research opportunities so students can gain experience without feeling like they must "do it all." Some students find research opportunities through advisors, while others struggle to access them. Schools should ensure all students know how to find and apply for research and internship programs.

6 Limitations

Evaluating the evidence without biases is critical to underpin practice (Smith and Noble, 2025). This study has the potential of sampling bias or potential exclusion of less-connected students, the recruitment relied on peer referrals from the RAs who are already motivated STEM students. There is the potential that less-connected students and some non-Biology/Chemistry majors may be under-represented, which could bias the sample toward the RAs' networks. Students in other STEM of life sciences disciplines may not be represented in the results of this qualitative study. Also, this study did not have the opportunity to conduct inter-rater reliability of the instrument and therefore the results may subject to threat of internal validity.

7 Conclusion

MSIs are tasked with creating an equitable learning environment that will be conducive to successful, academically prepared students who are equipped with the necessary skills to enter STEM career pathways. MSIs often create nurturing academic settings that cater to the unique cultural and educational needs of their students. Fewer research has studied the relationship between the background of the scientific workforce and the type of science, population, and instruction focus; and even less studied is the role institutional structures that support this science.

This research called for an intersectionality approach to mentoring and understanding of what students experience while studying at this Urban MSI. As an Urban MSI in New York City the diversity of students falls beyond race and ethnicity to include layers of immigration, inter-generational students, religion, urban versus rural commuting students, low- and high-income residents in NYC attending public institutions, high income multilingual students vs. English as a second language students coming out of NYC school districts, and more, and specially in gender differences. All of these areas merit more analyses to understand their narratives and counter narratives as they interface with the STEM studies and careers. Each of these have a relation to their parental role models, how they experience instructor mentorship, study-work balance, and the other narratives identified in this research.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by CUNY Human Research Protection IRB. The studies were conducted in accordance with the local legislation and institutional requirements. All participants provided their oral informed consent to participate in this study.

Author contributions

FI: Conceptualization, Data curation, Writing – review & editing, Methodology, Formal analysis, Writing – original draft, Investigation. KR: Conceptualization, Data curation, Writing – review & editing, Formal analysis. DÁ: Conceptualization, Writing – original draft, Writing – review & editing, Investigation, Formal analysis, Methodology, Data curation. MR: Writing – review & editing, Methodology, Project administration, Data curation, Funding acquisition, Resources, Writing – original draft, Conceptualization, Supervision.

Funding

The author(s) declare that financial support was received for the research and/or publication of this article. This study was possible due to funding from NSF Award Number (FAIN): 2310991 titled: "Collaborative Research HSI_HUBs: Intersectionality in STEMs".

Acknowledgments

Thank you CUNY's Institute for Health Equity (CIHE) and Dominican Studies Institute (DSI) for the support

and guidance in this project. Special mention to CIHE's Administrative Coordinator.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declare that no Gen AI was used in the creation of this manuscript.

Any alternative text (alt text) provided alongside figures in this article has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Allen, D., Dancy, M., Stearns, E., Mickelson, R., and Bottia, M. (2022). Racism, sexism and disconnection: Contrasting experiences of Black women in STEM before and after transfer from community college. *Int. J. Stem Educ.* 9:20. doi: 10.1186/s40594-022-00334-2

Amarnani, R. K., Garcia, P. R. J. M., Restubog, S. L. D., Bordia, P., and Bordia, S. (2018). Do you think I'm worth it? The self-verifying role of parental engagement in career adaptability and career persistence among STEM students. *J. Career Assess.* 26, 77–94. doi: 10.1177/1069072716679925

Camarota, S. A., and Zeigler, K. (2021). *Fertility Among Immigrants and Native-Born Americans*. Washington, DC: Center for Immigration Studies

Carter, R., and Seaton, E. K. (2025). Rethinking pubertal research: embracing intersectionality. *Child Dev. Perspect.* 19, 80–91. doi: 10.1111/cdep.12527

Collins, P. H., and Bilge, S. (2016). *Intersectionality Polity Press*. Malden, MA: Polity Press.

Covarrubias, R., Laiduc, G., and Valle, I. (2019). Growth messages increase help-seeking and performance for women in STEM. *Group Process. Intergr. Relat.* 22, 434–451. doi: 10.1177/1368430218802958

Dotterer, A. M. (2022). Parent involvement, expectancy values, and STEM outcomes among underrepresented adolescents. *Soc. Psychol. Educ.* 25, 113–127. doi: 10.1007/s11218-021-09677-0

Ferrini-Mundy, J. (2013). Driven by diversity. *Science*. 340:278. doi: 10.1126/science.1235521

Gladstone, J. R., and Cimpian, A. (2021). Which role models are effective for which students? A systematic review and four recommendations for maximizing the effectiveness of role models in STEM. *Int. J. STEM Educ.* 8:59. doi: 10.1186/s40594-021-00315-x

Hall, N. C., and Sverdlik, A. (2016). Encouraging realistic expectations in STEM students: paradoxical effects of a motivational intervention. *Front. Psychol.* 7:1109. doi: 10.3389/fpsyg.2016.01109

Hays, P. A. (2024). Four steps toward intersectionality in psychotherapy using the ADDRESSING framework. *Prof. Psychol. Res. Pract.* 55, 454–462. doi: 10.1037/pro0000577

Hsu, J. L., and Goldsmith, G. R. (2021). Instructor strategies to alleviate stress and anxiety among college and university STEM students. *CBE Life Sci. Educ.* 20:es1. doi: 10.1187/cbe.20-08-0189

Kindi, V., and Arabatzis, T. (2013). *Kuhn's The structure of Scientific Revolutions Revisited*. Milton Park: Routledge.

Kuhn, T. S. (2012). *The Structure of Scientific Revolutions, 50th ed*. University of Chicago Press.

Mayring, P. (2021). *Qualitative Content Analysis: A Step-by-Step Guide*. Washington DC: Sage publication.

Morey, T., and Taylor, N. (2019). Understanding how undergraduate students experience and manage stress: implications for teaching and learning anthropology. *Teach. Learn. Anthropol.* 2:e0875 doi: 10.5070/T32240875

Myers, S. B., Sweeney, A. C., Popick, V., Wesley, K., Bordfeld, A., Fingerhut, R., et al. (2012). Self-care practices and perceived stress levels among psychology graduate students. *Train. Educ. Prof. Psychol.* 6:55. doi: 10.1037/a0026534

National Center for Science and Engineering Statistics (2023). *College-Educated STEM Workforce*. Washington, DC: NSF.

National Science Foundation (NSF) (2023). *NSF's Eddie Bernice Johnson Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science Initiative*. Washington, DC: NSF.

Nkrumah, T., and Scott, K. A. (2022). Mentoring in STEM higher education: a synthesis of the literature to (re)present the excluded women of color. *Int. J. STEM Educ.* 9:50. doi: 10.1186/s40594-022-00367-7

Park, E. S., McPartlan, P., Solanki, S., and Xu, D. (2023). When expectation isn't reality: racial disparities in overestimation and STEM attrition among first-year students in college. *J. High. Educ.* 94, 526–556. doi: 10.1080/00221546.2022.2146570

Rodriguez, S. L., Cunningham, K., and Jordan, A. (2017). What a scientist looks like: How community colleges can utilize and enhance science identity development as a means to improve success for women of color. *Commun. Coll. J. Res. Pract.* 41, 232–238. doi: 10.1080/10668926.2016.1251354

Smith, J., and Noble, H. (2025). Understanding sources of bias in research. *Evid. Based Nurs.* 28, 137–139. doi: 10.1136/ebnurs-2024-104231

Taj, N., and Ashraf, T. (2024). Special issue editorial: intersectionality: from theory to practice. *J. Underrepresented Minor. Progr.* 8, 1–9. doi: 10.32674/eddpxq53

Tal, M., Lavi, R., Reiss, S., and Dori, Y. J. (2024). Gender perspectives on role models: Insights from STEM students and professionals. *J. Sci. Educ. Technol.* 33, 699–717. doi: 10.1007/s10956-024-10114-y

US Census Bureau (2024). "QuickFacts United States," in *Survey PE-AC* (ed.). Washington, DC: US Census Bureau.

Webb, R. M., Lubinski, D., and Benbow, C. P. (2002). Mathematically facile adolescents with math-science aspirations: new perspectives on their educational and vocational development. *J. Educ. Psychol.* 94:785. doi: 10.1037/0022-0663.94.4.785

Weston, T. J., Seymour, E., Koch, A. K., and Drake, B. M. (2019). "Weed-out classes and their consequences. ," in *Talking About Leaving Revisited: Persistence, Relocation, and Loss in Undergraduate STEM Education*. (Berlin: Springer), 197–243. doi: 10.1007/978-3-030-25304-2_7

Xie, S. (2024). *The Geography of Inequality in STEM: Immigration, Gender, and Economic Disparities in the United States*. Tempe, AZ: Arizona State University.

frontiers | Frontiers in Public Health

TYPE Original Research
PUBLISHED 14 October 2025
DOI 10.3389/fpubh.2025.1652410

OPEN ACCESS

EDITED BY
Maria-Isabel Roldos,
The City University of New York, United States

REVIEWED BY
Kerem Kinik,
University of Health Sciences, Türkiye
Justine McGovern,
The City University of New York, United States

*CORRESPONDENCE
Ji-Ung Jeong
jiungjeong987@gmail.com

RECEIVED 23 June 2025
ACCEPTED 30 September 2025
PUBLISHED 14 October 2025

CITATION
Jeong J-U (2025) A crisis in the shadows: public health outcomes and barriers to care for children of North Korean defectors in China.
Front. Public Health 13:1652410.
doi: 10.3389/fpubh.2025.1652410

A crisis in the shadows: public health outcomes and barriers to care for children of North Korean defectors in China

Ji-Ung Jeong*

Department of Disability Studies, Daegu University, Daegu, Republic of Korea

Background: Children born to North Korean defectors in China are effectively stateless and legally invisible, creating severe structural barriers to healthcare. This policy-driven public health crisis, marked by poor physical and mental health outcomes, remains critically underexamined from a healthcare perspective. This study aims to analyze the policy discourse to identify these structural barriers and understand how the health of this vulnerable pediatric population is framed and contested over time.

Methods: A longitudinal qualitative content analysis was conducted on official documents from the UN Committee on the Rights of the Child (CRC) treaty-reporting cycles. The analysis covers the period from 2005 to 2022, systematically comparing the evolving positions of the Chinese government, the CRC, and civil society organizations on health-related issues.

Results: The analysis reveals a persistent discursive stalemate. China consistently employs a strategy of deflection and denial, framing North Koreans as "illegal economic migrants" and a security threat, a position that has not changed over the 17-year period. In contrast, the CRC's critique evolved from general concerns about "irreparable harm" to a specific focus on the *de facto* statelessness and denial of legal identity as the primary barrier to pediatric care for these children.

Conclusion: State policies that deny legal identity are the primary structural determinants of this public health crisis, systematically producing poor health outcomes. The analysis confirms that while the UN reporting system is limited in its enforcement capacity, it is crucial for documenting these violations. To mitigate harm, future health policy and advocacy should focus on the key recommendation of decoupling access to essential pediatric services from a child's legal or household registration status.

KEYWORDS

healthcare access, health policy, statelessness, pediatric care, social determinants of health, North Korean defectors

1 Introduction

The principle of universal access to healthcare is a cornerstone of global public health, predicated on the belief that a child's health and survival should not be determined by their legal status (1, 2). However, state policies that render specific populations legally invisible create profound public health crises by systematically dismantling this access. This is the stark reality for an estimated 30,000–50,000 children of North Korean defectors in China, a hidden pediatric population facing extreme health risks due to their

stateless and undocumented status (3, 4). Denied a legal identity, these children are systematically excluded from China's public healthcare system, resulting in a cascade of negative health outcomes, including untreated pediatric illness, chronic malnutrition, and severe developmental trauma (5).

This public health crisis is not accidental but is engineered by specific state policies that function as powerful social determinants of health. The primary structural barrier is China's household registration (*hukou*) system, which serves as an essential, non-clinical gatekeeper to all public services. As their North Korean mothers are undocumented and live under the constant threat of forced repatriation, the act of registering a child to secure healthcare access becomes a perilous choice that risks family separation and the mother's return to a country where she faces torture or execution (5). This impossible dilemma effectively weaponizes the healthcare and administrative systems against them. Consequently, these children are barred from receiving essential pediatric care, including vaccinations and developmental screenings, while the perpetual fear of discovery acts as a source of chronic toxic stress—a well-documented physiological process that impairs childhood neurological development and precipitates significant mental health challenges in both mother and child (6–8).

While the devastating health consequences of this situation are known to humanitarian actors, they have been consistently marginalized within mainstream public health literature and policy discourse. The primary venue where this crisis is officially and publicly addressed is the UN human rights treaty-reporting system. Within this forum, bodies like the UN Committee on the Rights of the Child (CRC) have repeatedly challenged China on the physical and psychological harm caused by its policies (9, 10). This official dialogue, therefore, represents a unique site of analysis for understanding how the health of a vulnerable population is framed, contested, and ultimately neglected at the highest levels of international governance. This study repositions a human rights issue as an urgent public health problem. Through a longitudinal analysis of UN treaty body reporting documents from 2005 to 2022, this research dissects the political and legal architecture of this health crisis. The objective is to analyze how the health and wellbeing of these children are framed, how state justifications perpetuate barriers to care, and how the international community has responded. By moving beyond a description of the problem to an analysis of the policy discourse that sustains it, this study provides a new framework for understanding state-produced health inequities affecting hidden populations and offers critical insights for developing interventions that can mitigate harm and promote health justice.

This study uses three interconnected concepts to describe the plight of the children of North Korean defectors in China. 'Lack of legal identity' refers to the absence of official documentation which is the necessary prerequisite to access state services in China. This practical, bureaucratic exclusion often leads to 'de facto statelessness,' a condition where a child, despite potentially having a nationality in theory, is not recognized as a national by any state in practice and is thus denied the protections associated with citizenship. Together, these conditions create a state of 'legal invisibility,' a term used in this paper to describe the lived reality of being functionally non-existent to the state's administrative, healthcare, and educational systems.

2 Literature review: a hidden public health crisis

This chapter establishes the context for the public health crisis facing children of North Korean defectors in China. It begins by describing the population and the environment of legal precarity in which they exist. It then details the specific physical and mental health vulnerabilities that define this pediatric crisis. Finally, it analyzes the state policies and legal frameworks that function as structural barriers to care, creating and perpetuating these adverse health outcomes.

2.1 Population of North Korean defectors and their children in China

Estimating the number of North Korean defectors residing in China is notoriously difficult, with figures ranging from tens of thousands to over 100,000 (11). This population exists in a state of extreme legal precarity, as China does not recognize them as refugees, but rather as illegal economic migrants (12). This classification leaves them without legal protection and under constant threat of discovery and forced repatriation to North Korea, where they face severe penalties, including torture and execution (11, 13).

Within this hidden population is a distinct and highly vulnerable pediatric group: children born in China to North Korean mothers and, typically, Chinese fathers. These children inherit their mothers' precarious legal status. Their existence is defined by a lack of legal identity, as their mothers cannot safely register their birth without risking their own arrest (14). This legal invisibility is the foundational social determinant that drives the public health crisis affecting this group.

2.2 Physical and mental health outcomes of legal invisibility

The denial of legal status creates a cascade of severe and interconnected health crises for these children, impacting both their physical and mental wellbeing from birth. This section details the specific health profile of this hidden pediatric population.

2.2.1 Physical health and barriers to pediatric care

The most immediate and damaging consequence of legal invisibility is the systemic exclusion from China's public healthcare system. Lacking *hukou*, the essential household registration, these children are barred from receiving fundamental pediatric care, including the full schedule of routine childhood vaccinations, which places them at high risk for preventable infectious diseases such as measles, polio, and diphtheria (14). They are also excluded from developmental screenings, meaning that physical, cognitive, or sensory impairments (e.g., vision or hearing problems) may go undiagnosed during critical early-childhood windows, leading to lifelong disabilities that could have been mitigated with early intervention.

Furthermore, many of these children suffer from chronic nutritional deficiencies and stunted growth. This often begins *in utero*, as their mothers—frequently victims of trafficking and living in poverty—may have been malnourished during pregnancy, leading to

low birth weight and a predisposition to poor health (15). This intergenerational transfer of vulnerability is compounded by post-natal poverty and food insecurity. Without access to subsidized healthcare or nutritional support programs, treating even common illnesses like respiratory infections or diarrhea becomes a significant financial burden. Families are forced to rely on costly private clinics they can ill afford or, more often, forgo care entirely. This not only leads to higher rates of preventable morbidity but also sets the stage for poor long-term health outcomes, as childhood malnutrition and stunting are linked to an increased risk of chronic diseases such as diabetes and cardiovascular conditions in adulthood (15).

2.2.2 Mental health and developmental trauma

The environment of constant fear, instability, and secrecy inflicts profound and lasting psychological distress on these children. The perpetual threat of a mother's arrest and forced repatriation creates a state of toxic stress, where the child's developing brain is continuously exposed to high levels of stress hormones like cortisol. This is known to impair cognitive function, emotional regulation, and executive functioning (6). The common occurrence of family separation—whether through a mother's arrest or her decision to flee onward to a third country—is a defining traumatic event. It can result in complex trauma (C-PTSD) and severe attachment disorders, as the child experiences a profound sense of abandonment and what trauma specialists term 'ambiguous loss': a psychologically devastating loss that lacks closure because the parent's fate—whether they have been repatriated, imprisoned, or have fled elsewhere—remains unknown (6, 7, 16).

This direct psychological burden is compounded by severe social isolation. Taught from a young age to be inconspicuous and to avoid authorities, these children are often deprived of the normal peer interaction, play, and school environments that are crucial for healthy social and emotional development. This isolation can lead to feelings of otherness, loneliness, and depression, further hindering their ability to form healthy social relationships (8). The combination of these factors—toxic stress, trauma of separation, and social isolation—creates a mental health profile of extreme vulnerability, with children at high risk for a range of psychiatric and behavioral disorders that go entirely undiagnosed and untreated by any formal mental health service.

2.3 Structural determinants: state policies as barriers to healthcare

The adverse health outcomes detailed above are not accidental but are the predictable results of specific state policies that function as powerful structural determinants of health.

China's policy of classifying North Korean defectors as "illegal economic migrants," rather than as refugees or asylum seekers deserving of protection under international law, is the primary driver of this crisis (5, 13). This political and legal classification is a deliberate strategy that strips these individuals of any claim to international protection. The policy is enforced through a bilateral border agreement with North Korea and underpins the practice of forced repatriation. It is this credible and constant threat of repatriation that prevents mothers from seeking necessary prenatal and pediatric care for their children, effectively turning the healthcare system from a place of safety and support into a site of potential danger and family destruction.

Furthermore, China's *hukou* system institutionalizes this exclusion, acting as the primary mechanism that translates a mother's illegal status into her child's denial of care. By linking access to all public services—including healthcare, vaccinations, and education—to this registration document, the system structurally denies care to any child who cannot be safely registered (14). Although China has ratified the Convention on the Rights of the Child, which mandates that the "best interests of the child" be a primary consideration in all actions, its domestic policies on immigration and household registration systematically override this principle for this specific population. These policies create a closed loop of vulnerability: the mother's illegal status makes her child legally invisible, and this legal invisibility becomes an insurmountable barrier to accessing the healthcare necessary for a healthy and productive life.

3 Materials and methods

This chapter outlines the methodological approach used to analyze the policy discourse surrounding the health and wellbeing of children of North Korean defectors in China. It details the study's health-focused research objectives, describes the data sources and selection criteria, and presents the systematic framework used for the qualitative content analysis.

3.1 Research objectives

The primary purpose of this study is to systematically analyze the international policy discourse that shapes the healthcare access and health outcomes of children of North Korean defectors in China. The research is guided by the central question: How has the policy dialogue within the UN system framed the health-related vulnerabilities and structural barriers to care for these children since 2000?

To understand the drivers of this public health crisis and inform future health policy, this research first identifies and categorizes the key health-related issues and barriers to care—such as the lack of access to pediatric services, mental health trauma, and nutritional deficits—as they are articulated within the UN CRC reporting process. The study then proceeds to analyze and compare how different actors, namely the Chinese government, the CRC, and civil society organizations, frame the health and wellbeing of these children. Finally, the research examines the evolution of this health policy discourse over time, assessing whether the focus on specific health outcomes has changed and how the Chinese state has responded to health-related recommendations.

3.2 Data sources

The primary data for this study consist of public documents from the CRC treaty-reporting system pertaining to the People's Republic of China for reporting cycles after the year 2000. These legal and policy documents were selected as they represent the official, high-level discourse that directly influences the structural determinants of health for this population. The documents include State Party Reports

submitted by China, Lists of Issues and Concluding Observations from the Committee, and Parallel Reports from civil society organizations.

Data collection was conducted using the UN Treaty Body Database. The search parameters were set to "Asia-Pacific - China" and "Committee on the Rights of the Child," and relevant documents were downloaded. The specific documents selected for analysis are detailed in Table 1.

This study employs a qualitative content analysis of public documents, a method well-suited for systematically identifying and interpreting specific themes and arguments within policy texts (17). The analytical procedure began with a thorough document immersion and open-coding process, where all text segments referencing North Korean defectors and their children were tagged with a specific focus on terms related to both legal status (e.g., refugee, statelessness) and health and wellbeing (e.g., healthcare access, mental health, nutrition). Following this coding, the initial codes were systematically reviewed and organized into broader, health-oriented themes, such as "Structural Barriers to Healthcare Access," "Mental Health Stressors and Trauma," and "State Justifications for Policies with Negative Health Impacts." Next, the analysis proceeded with an actor-based comparative approach, where the content related to each theme was examined by its source—the Chinese government, the CRC, or civil society—to reveal how each actor framed the health issues. Finally, a longitudinal analysis was conducted across the reporting cycles (2005–2022) to trace the evolution of the health discourse, identifying persistent health concerns and any discernible shifts in the policy dialogue over time (Table 2).

4 Results

The longitudinal analysis of the UN treaty-reporting documents reveals a persistent and unresolved public health crisis affecting children of North Korean defectors in China. The dialogue between the CRC, the Chinese government, and civil society highlights several key themes: the profound health risks associated with China's *refoulement* policy, the systemic denial of healthcare due to legal invisibility, and the discursive strategies used by the state that perpetuate these conditions.

4.1 The policy of forced repatriation: the risk of irreparable harm

The foundational issue that emerges from the UN reporting cycle is China's policy of forced repatriation and its direct, severe health consequences. The dialogue began in 2005 when the CRC first expressed grave concern that children entering China from the DPRK were "categorically considered as economic migrants and returned… without consideration of whether there are risks of irreparable harm to the child upon return" (18). By invoking the term "irreparable harm," the Committee framed the issue not merely as a legal violation but as a primary health concern, encompassing the immediate risks of physical violence and torture upon repatriation, as well as the long-term consequences of severe psychological trauma, such as Post-Traumatic Stress Disorder (PTSD) and chronic anxiety disorders.

In its 2010 State Report, the Chinese government responded not by addressing the risk of harm, but by employing a strategy of deflection. It highlighted its proper treatment of other, formally recognized refugee groups from countries like Vietnam, Pakistan, and Iraq, thereby projecting an image of compliance with international norms while sidestepping the specific allegations concerning North Koreans. The report firmly established a narrative that would persist for over a decade, stating that individuals from the DPRK are "not refugees" but illegal economic entrants, a classification that conveniently removes them from the protective obligations of the Refugee Convention (19).

This categorical denial was challenged by civil society, which pushed for a focus on procedure and individual health risks. In its 2012 submission, Human Rights in China (HRIC) argued that "the determination of refugee status and the risk of irreparable harm… is a factual, legal and individual determination," urging the Committee to demand information on the specific procedural safeguards in place (20). Adopting this more pointed line of inquiry, the CRC's 2013 List of Issues explicitly asked China to detail its "policies and mechanisms established… for assessing risk" (9). In its reply, the Chinese

TABLE 1 Documents selected for analysis from the CRC treaty-reporting system.

Document classification	Producing organization		Nature of organization	Publication date
Concluding Observations (on 1st and 2nd State Report)	Committee on the Rights of the Child	UN	CRC treaty body	Nov 24, 2005
State Report (3rd and 4th periodic reports)	People's Republic of China	China	State Party	Jul 16, 2010
Parallel Report	Human Rights in China (HRIC)	U. S.	Civil Society Organization	Nov, 2012
List of Issues	Committee on the Rights of the Child	UN	CRC treaty body	May 10, 2013
Reply to List of Issues	People's Republic of China	China	State Party	Aug 29, 2013
Concluding Observations (on 3rd and 4th State Report)	Committee on the Rights of the Child	UN	CRC treaty body	Oct 29, 2013
State Report (5th and 6th periodic reports)	People's Republic of China	China	State Party	Jul 16, 2022

TABLE 2 Analytical framework for the analysis.

Step	Title	Description
1	Document Immersion and Coding	Comprehensive reading and open-coding of documents to identify references to North Korean children related issues.
2	Thematic Categorization	Grouping codes into key themes.
3	Actor-Based Comparison	Analyzing each theme by source to identify consensus and divergence.
4	Longitudinal Analysis	Tracing thematic developments across reporting cycles to assess continuity and change over time.

government escalated its rhetoric. It not only repeated its "illegal entrants" position but also actively securitized the population, framing them as a threat who "disrupted China's normal order of entry and exit" and engaged in "criminal activities" (21).

This securitization of the defector population has direct and severe implications for public health. By labeling these individuals as criminals rather than a vulnerable population with health needs, the state narrative creates a powerful chilling effect, actively discouraging families from seeking any form of healthcare for fear that interacting with state authorities will lead to identification and repatriation. This fear becomes a primary structural barrier to accessing care. Furthermore, the ever-present threat of forced return functions as a source of chronic toxic stress, a well-established precursor to a range of adverse long-term physical and mental health conditions in both children and their caregivers. Thus, the state's political and security framing is not merely a diplomatic posture; it is a policy choice that directly creates and exacerbates a public health crisis.

4.2 Legal invisibility as a structural barrier to pediatric care and education

The analysis of the UN reporting documents reveals a crucial evolution in the international discourse, moving beyond the immediate threat of refoulement for entering children to the chronic public health crisis facing children born inside China. The Committee's 2013 Concluding Observations marked a key turning point by explicitly identifying that "children whose mothers are from the Democratic People's Republic of Korea lack legal identity and access to basic rights, particularly education, as they are not registered under the hukou system" (10). The report further noted the "absence of special reception procedures… (and that they) lack access to health care" (10). This finding pinpoints the state-managed system of legal invisibility as the primary structural barrier to pediatric care.

At the heart of this barrier is China's household registration system, or hukou. Far more than a census record, the hukou functions as an essential gatekeeper to all public services. For the undocumented North Korean mother, this creates an impossible choice: to secure her child's legal right to healthcare by registering their birth, she must present her own identification, which would immediately expose her to arrest and forced repatriation. This catch-22 effectively weaponizes the healthcare and administrative systems against her, turning a potential act of care into one of extreme personal risk. Consequently, a rational fear for her own life and of permanent separation from her child forces her to keep the child unregistered and, therefore, outside the formal healthcare system.

The health consequences of this systemic exclusion are severe and multifaceted. The lack of legal identity systematically denies these children access to fundamental preventative health measures, such as routine childhood immunizations, which leaves both the individual child and the wider community vulnerable to outbreaks of preventable diseases. They are also excluded from developmental screenings, meaning that physical or cognitive delays may go undiagnosed and untreated during critical developmental windows. Access to primary care for acute illnesses is limited to costly private clinics or is forgone entirely, increasing the risk of complications and preventable morbidity.

Furthermore, the Committee's explicit concern about access to education is also a critical public health issue. Education is a well-established social determinant of long-term health and wellbeing, strongly correlated with health literacy, lifestyle choices, and lifetime economic stability (22). By being barred from the state school system, these children are placed on a trajectory of poor long-term health outcomes. In its official reports, including the most recent one from 2022, the Chinese government remains completely silent on the specific issue of birth registration for this population, thereby reinforcing their invisibility at a policy level and ensuring that the structural barriers to healthcare and its social determinants remain firmly intact (23).

4.3 State justifications and the persistence of the public health crisis

Across the entire 17-year period of analysis, a clear and unchanging pattern of discursive stalemate emerges. This stalemate is not passive; it is an active policy environment that directly explains the persistence of the public health crisis facing children of North Korean defectors. The pattern is consistently initiated by the CRC and civil society raising specific, rights-based health and welfare concerns, which are then met with a robust and unvarying three-part defensive strategy from the Chinese government: deflection, denial, and securitization.

The first element of this strategy is deflection. China repeatedly points to its positive treatment of recognized refugee populations from other countries, such as those from Indochina, Pakistan, and Iraq, to project an image of compliance with international norms (19, 21). This rhetorical move is a well-documented state practice of "organized hypocrisy," where states publicly commit to international norms while selectively violating them to protect sovereign interests (24). This allows China to create a narrative of a functioning and humane refugee system, while simultaneously carving out a political exception for North Koreans, effectively insulating its policy toward them from the same standards.

This is immediately followed by denial, achieved through a powerful act of legal framing. The cornerstone of China's position is its categorical denial that North Koreans qualify as refugees. By consistently labeling them as "illegal economic migrants," the state transforms a humanitarian issue requiring protection into a simple matter of domestic immigration law enforcement (19, 21, 22). This legal re-framing has profound health implications: it absolves the state of any obligation to provide specialized care or protection under

international refugee law and justifies its primary policy response of repatriation.

Finally, the strategy is reinforced by securitization. This is a process where an issue is framed as an existential threat to the state, thereby justifying extraordinary measures outside the realm of normal politics (25). In its 2013 reply, the Chinese government escalated its rhetoric by framing defectors as a threat to public order who "disrupted China's normal order of entry and exit" and engaged in "criminal activities" (21). This move reframes the population from a vulnerable group with health needs to a security threat to be managed. This has a direct chilling effect on health-seeking behaviors, a phenomenon well-documented among undocumented populations who fear that interacting with any state institutions—including hospitals and clinics—will lead to identification and deportation (26). The state's political and security framing, therefore, functions as a direct structural barrier to health.

The persistence of this stalemate demonstrates that the policy environment itself perpetuates poor health outcomes. China's 2022 report shows this position has not evolved, repeating the same justifications from previous cycles (22). This refusal to engage with the health and welfare concerns raised by the Committee creates a form of structural violence, where the political and legal systems systematically inflict harm and prevent a vulnerable population from meeting its basic health needs (27). The result is not merely a diplomatic impasse but a sustained policy environment that knowingly creates and perpetuates a public health crisis.

5 Conclusion

This study investigated the public health crisis facing children of North Korean defectors in China—an acutely vulnerable group rendered stateless and invisible by structural policy exclusions. A longitudinal analysis highlights a persistent discursive stalemate, driven by a fundamental clash between China's state-centric security framework and the UN's rights-based public health principles. As a result, these children remain largely excluded from pediatric care and public health services. As a result, these children remain largely excluded from pediatric care and public health services.

The analysis traced the evolution of the UN CRC's concerns—from the risk of irreparable harm through forced repatriation to the entrenched crisis of *de facto* statelessness among these children. Because they are systematically denied legal identity under the *hukou* system, these children lack access to essential health services such as immunizations, growth monitoring, and mental health support. China's continued refusal to engage substantively with these critiques ensures that its policy regime not only perpetuates but structurally produces poor health outcomes. The policy environment itself, shaped by securitization and sovereign control, becomes a determinant of health inequality.

The structural mechanisms identified in this study—where legal status is used as a gatekeeper to healthcare—are not unique to China but reflect a global pattern of state-produced health inequity. The absolute exclusion and dire health outcomes faced by Rohingya children in Bangladesh, who are also denied citizenship and legal identity, offer a stark parallel, particularly concerning malnutrition and vulnerability to infectious diseases (28). Similarly, the "chilling effect" of state policy is observed in Western nations, where the fear of immigration enforcement deters undocumented families in the United States and Europe from accessing necessary pediatric care (29). While the specific policy tools differ, the outcome is consistent: the state's control over legal status becomes a powerful mechanism for producing health inequities among vulnerable children.

This case reflects broader insights from global health and political theory. It exemplifies how state policy can function as a powerful social determinant of health—where decisions about legal recognition and administrative classification carry direct consequences for physical survival (30). China's approach, rooted in a biopolitical logic of population control and selective inclusion, places children born to undocumented migrants outside the boundaries of public care. It also creates an ethical bind for health professionals, who may hesitate to offer care for fear of triggering punitive state responses toward their patients and their families (31). This dynamic aligns with what some scholars have termed "letting die" as an exercise of sovereign power (32).

Addressing this crisis in a realistic and constructive way requires a public health strategy that acknowledges China's political constraints while seeking feasible pathways to mitigate harm. Rather than appealing solely to refugee law or moral imperatives international advocacy should emphasize low-profile, rights-compatible policies already recognized in principle by China. For example, targeted support for local-level pilot programs that provide limited healthcare access to undocumented children under the umbrella of infectious disease control or maternal and child health could be framed as contributing to national public health goals. Quiet engagement with municipal governments in border regions or urban areas with known defector populations may yield more cooperation than direct political confrontation.

Community-based NGOs and religious organizations operating in China or neighboring countries may also play a role by discreetly supporting informal health education, mobile clinics, and nutritional aid without drawing overt attention to the legal status of the recipients. International organizations could explore partnerships with these actors to extend existing immunization programs to children in undocumented households, in ways that minimize state scrutiny.

Finally, there is a pressing need for empirical public health research that documents the health needs and risks faced by these children. Epidemiological and qualitative studies conducted with resettled defector families in South Korea or elsewhere could provide the data necessary to inform harm-reduction strategies and identify indirect indicators of the crisis in China. These findings can support evidence-based policy recommendations that align with China's stated commitments to children's health, without requiring a fundamental shift in political ideology.

This study is limited by its reliance on official UN documents which may not fully capture the lived experiences of children and families affected by structural exclusion. Specifically, the use of treaty-body reports introduces potential bias, as these documents reflect formal state responses and international advocacy perspectives rather than direct ethnographic or testimonial evidence. As a result, gaps likely remain regarding local practices and informal health access. This methodological limitation suggests that the findings may be conservative; the true extent of exclusion and associated health risks may be even more severe than indicated. Nevertheless, by foregrounding the intersection of legal status and public health, it contributes to a clearer understanding of how structural exclusion

produces preventable suffering. Making these children visible in international and domestic health policy discourse is an urgent step—not only toward protecting their right to health but also toward restoring their basic human dignity in a context that has long denied it.

Data availability statement

All primary source documents cited and analyzed in this study are open access and can be accessed directly through the United Nations Treaty Body Database.

Ethics statement

Ethical approval was not required for the study involving humans in accordance with the local legislation and institutional requirements. Written informed consent to participate in this study was not required from the participants or the participants' legal guardians/next of kin in accordance with the national legislation and the institutional requirements.

Author contributions

J-UJ: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Funding

The author(s) declare that no financial support was received for the research and/or publication of this article.

Acknowledgments

This article emerged from a research project undertaken at Handong International Law School. I would like to thank Professor Fred Ross III for his valuable insights and guidance.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author declares that Gen AI was used in the creation of this manuscript. A generative AI tool was used during the writing process to assist with language refinement and improving the manuscript's structure based on the author's work. The author takes full responsibility for the final content, ensuring its accuracy and originality.

Any alternative text (alt text) provided alongside figures in this article has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

Publisher's note

References

1. Palm W, Hernandez-Quevedo C, Klasa K, van Ginneken E. Implementation of the right to health care under the UN convention on the rights of the child. Copenhagen: European Observatory on Health Systems and Policies (2017).

2. Onarheim KH, Melberg A, Meier BM, Miljeteig I. Towards universal health coverage: including undocumented migrants. *BMJ Glob Health*. (2018) 3:e001031. doi: 10.1136/bmjgh-2018-001031

3. Kim SW. North Korean refugees and China's responsibility. *New Asia*. (2012) 19:55–83.

4. The Guardian. 30,000 North Korean children living in limbo in China. (2016). Available online at: https://www.theguardian.com/world/2016/feb/05/north-koreas-stateless-children (Accessed October 16, 2023).

5. Son HJ. A study on the legal status of North Korean defectors. *Leg Stud*. (2017) 53:109–47. doi: 10.22851/kjlr.2017..53.003

6. Baik J, Yoon YJ, Gibson P, Lo N, Nam HE, Im YJ, et al. Mothering and mothered during defection and resettlement: experiences of North Korean refugee women and their children. *Child Youth Serv Rev*. (2021) 130:106242. doi: 10.1016/j.childyouth.2021.106242

7. Lee K, Kim MK, Baik JW. A study on the child-raising experiences of North Korean defector women with children born in China. *J Korean Fam Relat Assoc*. (2014) 19:213–40.

8. Stodolska M. Leisure during the escape and adaptation in South Korea: a life story of a North Korean adolescent defector. *Leis Sci*. (2024):1–20. doi: 10.1080/01490400.2024.2348500

9. Committee on the Rights of the Child. List of issues in relation to the combined third and fourth periodic reports of China. Geneva: United Nations (2013).

10. Committee on the Rights of the Child. Concluding observations on the combined third and fourth periodic reports of China, including Hong Kong, China and Macao, China. Geneva: United Nations (2013) Report No.: CRC/C/CHN/CO/3-4.

11. Chong S, Choi H. A study on the legal status and protection of North Korean defectors in China: Focusing on the comparison with Chinese legal system & international refugee law. *Public Law Study*. (2017) 8:111–141. doi: 10.31779/plj.18.4.201711.005

12. Kang C. The aquariums of Pyongyang: ten years in the North Korean gulag. New York (NY): Basic Books (2003). 170 p.

13. Han HW. A normative study on the right enactment direction of the North Korean human right act under the new circumstance and the legality of north Korean defectors under international refugee law. *J Leg Stud*. (2013) 50:29–53.

14. McPhee S. Kotjebi: North Korean children in China. *Asian Aff*. (2014) 45:484–9. doi: 10.1080/03068374.2014.951564

15. Choi SW. Changes in health status of North Korean children and emerging health challenges of north Korean refugee children. *Clin Exp Pediatr*. (2021) 64:552–8. doi: 10.3345/cep.2021.00192

16. Boss P. Ambiguous loss: working with families of the missing. *Fam Process*. (2002) 41:14–7. doi: 10.1111/j.1545-5300.2002.40102000014.x

17. Pinto AD, Manson H, Pauly B, Thanos J, Parks A, Cox A. Equity in public health standards: a qualitative document analysis of policies from two Canadian provinces. *Int J Equity Health*. (2012) 11:21. doi: 10.1186/1475-9276-11-28

18. Committee on the Rights of the Child. Concluding observations: China. Geneva: United Nations (2005) Report No.: CRC/C/CHN/CO/2.

19. People's Republic of China. Third and fourth combined report on the implementation of the convention on the rights of the child. Geneva: United Nations (2010).

20. Human Rights in China. Suggested questions and issues to be raised with the Chinese government in advance of the review of its third report on the implementation of the convention of the rights of the child. New York (NY): Human Rights in China (2012).

21. People's Republic of China. Response of the Chinese government to questions concerning the combined 3rd and 4th periodic reports on the implementation of the convention on the rights of the child. Geneva: United Nations (2013).

22. The Lancet Public Health. Education: a neglected social determinant of health. *Lancet Public Health*. (2020) 5:e361. doi: 10.1016/S2468-2667(20)30144-4

23. People's Republic of China. Combined fifth and sixth reports on the implementation of the convention on the rights of the child. Geneva: United Nations (2022) Report No.: CRC/C/CHN/5-6.

24. Krasner SD. Sovereignty: organized hypocrisy. Princeton (NJ): Princeton University Press (1999).

25. Buzan B, Wæver O, de Wilde J. Security: a new framework for analysis. Boulder (CO): Lynne Rienner Publishers (1998).

26. Friedman A, Venkataramani AS. Chilling effects: US immigration enforcement and health care seeking among hispanic adults. *Immigrant Health*. (2021) 40:1056–65. doi: 10.1377/hlthaff.2020.02356

27. Farmer PE. An anthropology of structural violence. *Curr Anthropol*. (2004) 45:305–25. doi: 10.1086/382250

28. Islam MM, Nuzhath T. Health risks of Rohingya refugee population in Bangladesh: a call for global attention. *J Glob Health*. (2018) 8:1–4. doi: 10.7189/jogh.08.020309

29. Corona Maioli S, Bhabha J, Wickramage K, Wood LCN, Erragne L, Ortega García O, et al. International migration of unaccompanied minors: trends, health risks, and legal protection. *Lancet Child Adolesc Health*. (2021) 5:882–95. doi: 10.1016/S2352-4642(21)00194-2

30. Marmot M, Allen J, Bell R, Bloomer E, Goldblatt PConsortium for the European Review of Social Determinants of Health and the Health Divide. WHO European review of social determinants of health and the health divide. *Lancet*. (2012) 380:1011–29. doi: 10.1016/S0140-6736(12)61228-8

31. Foucault M. The birth of biopolitics: lectures at the Collège de France, 1978–1979. New York (NY): Palgrave Macmillan (2008).

32. Willen SS, Knipper M, Abadía-Barrero CE, Davidovitch N. Syndemic vulnerability and the right to health. *Lancet*. (2017) 389:964–77. doi: 10.1016/S0140-6736(17)30261-1

frontiers | Frontiers in Public Health

TYPE Original Research
PUBLISHED 04 November 2025
DOI 10.3389/fpubh.2025.1655392

OPEN ACCESS

EDITED BY
Allison Squires,
New York University, United States

REVIEWED BY
Rabie Adel El Arab,
Almoosa College of Health Sciences, Saudi Arabia
Lakshmi Somatunga,
Ministry of Health, Nutrition and Indigenous Medicine, Sri Lanka
Jaye Jones,
Lehman College, United States

*CORRESPONDENCE
Cheryl Martens
✉ chermartens@yahoo.com;
✉ cmartens@usfq.edu.ec

RECEIVED 27 June 2025
ACCEPTED 09 October 2025
PUBLISHED 04 November 2025

CITATION
Martens C, Milan T, Mena Ayala MB, Teran E, Benavente P, Tran NT and Blanchet K (2025) Deployment and uptake of COVID-19 vaccines for refugees and migrants in Ecuador. *Front. Public Health* 13:1655392. doi: 10.3389/fpubh.2025.1655392

Deployment and uptake of COVID-19 vaccines for refugees and migrants in Ecuador

Cheryl Martens[1]*, Taymi Milan[1,2], María Belén Mena Ayala[3], Enrique Teran[1], Pierina Benavente[4], N. T. Tran[5,6] and Karl Blanchet[5]

[1]Instituto de Estudios Avanzados en Desigualdades, Universidad San Francisco de Quito, Quito, Ecuador, [2]University of Galway, Galway, Ireland, [3]Facultad de Ciencias Médicas, Instituto de Biomedicina Universidad Central del Ecuador, Quito, Ecuador, [4]Pandemic Centre, Department of Global Public Health and Primary Care, University of Bergen, Bergen, Norway, [5]Faculte de Medecine, Universite de Geneve, Geneva, Switzerland, [6]Australian Center for Public and Population Health Research, Faculty of Health, University of Technology Sydney, Sydney, NSW, Australia

This study examines access and uptake of COVID-19 vaccines among refugees and migrants in Ecuador, including those with regular and irregular migration status. Conducted in Quito, Manta, and Huaquillas with 344 participants, the article reports on the survey data to assess vaccination access, barriers, and enablers. Findings show that 94% of respondents received at least one vaccine dose, despite 69% having irregular status. However, gaps remained in second and booster dose uptake, which was linked to misinformation and administrative barriers such as lack of documentation, discrimination and stigma, especially from healthcare and security personnel at vaccine sites. Key facilitators included receiving support from non-governmental organizations, mobile health brigades, and pressure from international organizations. The study concludes that although Ecuador made vaccines accessible to migrants, systemic challenges, such as data gaps, xenophobia, and insufficient outreach, hindered equitable coverage and limited the rights of migrants and refugees. Improved communication, flexibility in relation to documentation are recommended to ensure equitable access vaccines.

KEYWORDS

vaccine access, discrimination, migrants, refugees, human rights

1 Introduction: context of migration and COVID-19 in Ecuador

There has been an unprecedented increase in migratory flows in Latin America, demonstrating that Ecuador has one of the highest levels of migration in the region, with more than 588 900 Venezuelan migrants, in relation to its small population of just over 18 million. The COVID-19 pandemic and the complex economic situation brought new challenges that affected vulnerable populations, including migrants. This population faced structural and social barriers that limit timely access to vaccination, a finding that has been demonstrated on a global level, and recorded within Latin America as well as Europe, where migrants face major barriers to vaccination, including language, legal restrictions (1).

During the pandemic, migrants in Ecuador reported increased discrimination, due to misinformation and stereotypes, resulting in the holding migrants responsible for the spread of the virus, impacting the risk of infection, mortality, and access to timely health care (2, 3).

In the context of COVID-19, the Ecuadorian government initiated its national vaccination plan "Vacunarse" during the final months of the government of president Moreno, in December 2020, followed by the "Plan 9/100", at the beginning of the first term of the president Lasso government on May 24th, 2021. Under the government of Lasso, the promise was to vaccinate 9 million people within the first 100 days of government. It is essential to note that Ecuador was the first country in the Andean region to implement a vaccine program specifically designed for its migrant population (2–5). In comparison with other countries in the region, Bolivia, Peru, and Paraguay lagged behind Ecuador (6). Comparative analyses suggest that earlier rollout, stronger supply chains, and broader eligibility criteria contributed to the faster uptake in higher-performing countries (6, 7).

In the case of Ecuador, a quarantine was imposed to contain the COVID-19 pandemic. However, the closure of borders and their militarization resulted in the suspension of all official migration processes, including the administrative process for applying for refugee status.

Several studies demonstrate the negative impact of these policies on the lives of people migrating to Ecuador, as access to food and services was reduced throughout the pandemic (8, 9). A significant result of the border closures was an increase in undocumented crossings to Ecuador throughout the pandemic. Limited official numbers and the dismantling of humanitarian aid and registration of migrant numbers by the Red Cross and other international ceased during the pandemic and has resulted in a complex system of intersectoral reporting and statistical estimations based mainly on access to the services of non-governmental and intergovernmental organizations and analyzed by the interagency working group for migrants and refugees (GTRM, by its acronym in Spanish "Grupo de Trabajo para Refugiados y Migrantes").

An impediment to measuring the impact of COVID-19 policies on migrants is the unevenness of governmental statistical record-keeping concerning the migrant population. According to the National Institute for Statistics and Census (INEC), as of March 21, 2022, the Ecuadorian Institute for Statistics reported that most registered foreign residents in Ecuador are of Colombian nationality (10). Of the 381,507 migrants in the country, 191,537 (50.2%) are of Colombian origin. In second place are US residents with a total of 26,386 migrants. However, this information is not considered to be accurate by international organizations, as the GTRM, an intersectoral working group for the articulation of actions agreed upon by various partners to address the protection, assistance, and integration needs of refugees and migrants from Venezuela in Peru, estimates that there are ~508,935 Venezuelans in Ecuador (11). This estimate is based on registering entry and exit from the country and analyzing, monitoring, tracking, and characterization of flows at the border.

During the pandemic in December 2021, more than 71,550 persons were registered in Ecuador as refugees. Of the refugee population, more than 97% are of Colombian origin.

2 Materials and methods

The overall objective of the study is to produce evidence on the barriers and facilitators to COVID-19 vaccination for refugees, migrants in regular situations (MIRS), and migrants in irregular situations (MIIS) in Ecuador, who are impacted by large-scale migration, and to provide an estimate of COVID-19 vaccination coverage among these three groups.

The specific objectives are to:

1. Understand the status of COVID-19 vaccine access and uptake, knowledge and perspectives, attitudes and practices, challenges, barriers, and enablers in refugees and migrants' access to vaccines regardless of their status in Ecuador.
2. Estimate the proportion of refugees and migrants reached by COVID-19 vaccination campaigns in Ecuador.

This study on COVID-19 vaccination uptake in Ecuador is part of a series of country-level studies grounded in the WHO Health Systems Framework, with its six system building blocks, and the Behavioral and Social Drivers (BeSD) of COVID-19 Vaccination Framework (Figure 1) (12, 13, 25, 26). The six system building blocks are leadership and governance, healthcare financing, health workforce, medical products and technologies, information and research, and service delivery. The WHO Health System Framework not only informs the design and content of our surveys but also enhances the actionability of our findings regarding health system strengthening. The BeSD of the COVID-19 Vaccination Framework enables careful consideration of how individual, social, and structural determinants interact to influence willingness to vaccinate and vaccination uptake.

The overall study consisted of two phases, corresponding to each of the objectives. In the first stage, a document analysis was conducted, along with key informant interviews, and in the second stage, the application a survey. The findings reported in the present article pertain to the survey data on to migrants and refugees, facilitators and barriers to vaccine access.

2.1 Survey instrument

The quantitative survey was designed based on the following guidelines and validated resources: (1) WHO and UNICEF (14); (2) Data for action: achieving high uptake of COVID-19 vaccines; (3) United States Centers for Disease Control and Prevention. Vaccine confidence survey, question bank (15); (4) United States Centers for Disease Control and Prevention (16); (5) COVID-19 vaccine confidence rapid community assessment guide; (6) WHO Regional Office for Africa (17). Social and behavioral insights: COVID-19 data collection tool for Africa; (7) WHO and UNICEF (18). Monitoring COVID-19 vaccination: considerations for the collection and use of vaccination data; (8) IOM and National

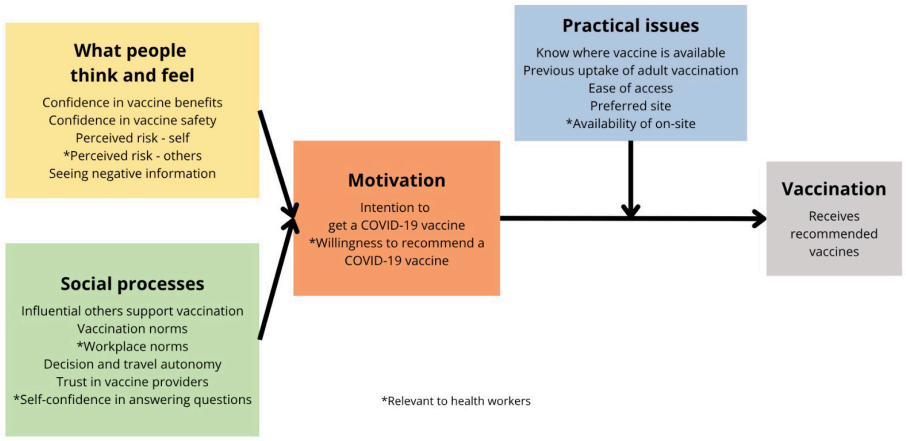


FIGURE 1
The behavioral and social drivers (BeSD) of COVID-19 vaccination framework.

Statistics Service of the Republic of Armenia (19). Report on household survey on migration in Armenia; (9) United Nations Expert Group on Migration Statistics (20); (10) Standard questions on international migration: Guidance note for the use in population censuses and household surveys. The interview guides were translated into Spanish, the main language spoken by migrants and refugees in Ecuador.

2.2 Sampling and data collection

For the survey, purposive sampling was used with a sample of 344 people distributed in the cities Quito ($n = 194$), the capital city and home to the highest estimated migrant population, the coastal city of Manta ($n = 72$), and the border city of Huaquillas ($n = 78$).

These cities were selected, given that they concentrate a high proportion of migrant population. The city of Quito has the highest level of migrant population; for that reason, the sample of Quito is proportionately higher to the other two cities sampled. Participants included all refugee, MIRS, or MIIS communities who qualified for the COVID-19 vaccine in Ecuador. Recruitment took place in collaboration with local NGOs with the highest percentage of migrant and refugee service users in each of the three cities. Recruitment was initially made through announcements on social media within migrant organizations migrant-focused foundations and associations that provide support and community engagement for refugees and migrants. While this approach facilitated access to diverse migrant groups, it may have introduced selection bias, as individuals not affiliated with such organization that may be among the most marginalize, could have been excluded.

To enhance representativeness and minimize this bias, the research team employed a referral (snowball) sampling method, allowing each respondent to refer other migrants within their networks. Significantly, none of the individuals who were invited to participate declined to do so. Nevertheless, the total number of individuals approached and those who declined participation were not systematically recorded, which we recognize as a limitation.

A small gift of food was given to each participant who decided to participate. Only those participants who agreed to participate and provided informed consent were included in the survey. No participant was excluded based on gender, race, religion, ethnicity, or other characteristics.

The survey was conducted in the cities of Quito, Manta, and Huaquillas, in collaboration with local NGOs that work with migrants and refugees. These organizations carried out a call for participation in the survey among their service users. The data collection process took place in the city of Quito from May 30th to June 2nd, 2022, at the Asociación Civil Chamos Venezolanos en Ecuador, where the migrant population and data collection were conducted at the organization's premises. Subsequently, data collection took place from July 27, 2022, to July 30, 2022, in the city of Huaquillas, in collaboration with Asociación Venezolanos en Exterior. The data collection process was conducted at the organization's premises. Finally, the data collection process was conducted in Manta with the support of the Organization La Chama de Manta from August 6, 2022, to August 8, 2022, during which interview spaces were provided.

2.3 Data collection

An online questionnaire designed using Kobo Toolbox, facilitated data collection for in-person survey interviews. The questionnaire's contents were finalized in consultation with members of the technical committee at USFQ (see Annex I for the survey questionnaire).

For the data collection, respondent answers to interview questions were simultaneously loaded on an online database by the interviewers as they conducted the interviews. Information was collected through in-person surveys and entered on a survey platform via mobile telephones.

The manager verified the accuracy and completeness of the entered data at various levels and stages. Only the research team had access to the server to download and check data quality.

The adults participating in the study gave informed written consent. All participants were over 18 years of age and informed about the right to refuse or withdraw from the survey at any time.

Data was gathered in the following areas: (1) Demographics; (2) Migration status; (3) COVID-19 infection; (4) Risks; (5) Infection status; (6) Testing; (7) Hospitalizations; (8) Preventive measures; (9) COVID-19 vaccination coverage, knowledge, access, and funding; (10) Behavior in context of infection and vaccination; (11) Motivation and Barriers.

2.4 Ethics and quality monitoring

The survey design, sampling strategy, instruments, and analytical plans were reviewed and approved by the Universidad San Francisco de Quito Ethics Committee. The confidentiality of all collected data was given high priority at every stage of data handling. The research participants were informed about the purpose, methods, benefits, and intended uses of the research. Informed verbal consent was obtained from the research subjects. Respondents were free to stop interviews at any time or skip any questions they did not want to answer. They had the right to ask questions at any point before, during or after the interview. Individual names and personal information of respondents were kept confidential, and personal identifiers were not used in any form of reporting. Datasets were also kept anonymous for analysis. All data files were saved in password-protected files.

Steps were taken to ensure the quality of data collection. Team leaders managed the teams and monitored activities, and reviewed all completed questionnaires for completeness and inconsistencies before leaving the village. Team leaders also did spot checks of data forms and provided guidance and supportive supervision to the field teams through continuous reinforcement of good practices. The challenges faced by teams were discussed, solutions developed, and feedback provided to team leaders.

3 Results

3.1 Participant profiles

The sample size for this study was 344 respondents, of whom 90.41% self-identified as Venezuelan. 5.81% of respondents reported their nationality to be Colombian, followed by Cuban nationals (1.5%) and 2.5% of other nationalities, mainly from Latin America and Africa. The survey was conducted in the capital city of Quito (Pichincha), with a sample size of 194, as well as in the cities of Manta in the province of Manabí ($n = 72$) and the city of Huaquillas in El Oro ($n = 78$).

Respondents were between 18 and 49 years of age, with the majority (49% of respondents) in the 30–49 age group, followed by 33% in the 18–29 age group. In contrast to these two age groups, which could be considered as young adults and adults, a minority of 3% of respondents were over 65 years of age. In the total sample (344 respondents), 53% were female, 46% male and 1% identified as "other". The higher percentage of female respondents supports the findings of other surveys of migrants in Ecuador (12, 13).

Regarding the level of education, 66% of respondents reported having completed secondary studies or higher. A total of 37% of the sample reported having completed secondary education, 27% possessed a university undergraduate degree, and 2% of respondents had completed a postgraduate degree.

In terms of length of time in Ecuador, 60.47% of the sample reported being in the country for between 1 and 5 years, followed by stays of <1 year. Of those surveyed, 69% were MIIS, meaning that they do not possess a visa or are in the process of obtaining one, and 5% were refugees.

3.2 Self-reported COVID-19 infection

Analysis of self-reported COVID-19 infection prevalence revealed differentiated patterns according to gender and migratory status (Table 1). Among the regular migrant population ($n = 90$), a significant gender disparity was identified ($\chi^2 = 8.31$, $p = 0.016$). Men reported an infection prevalence of 43.3% (26/60), significantly higher than that observed in women at 13.3% (4/30), resulting in an absolute difference of 30.0 percentage points (95% CI: 9.2% to 50.8%) favoring lower infection rates in women.

In contrast, no statistically significant gender differences were identified in either irregular migrant or refugee populations. Among irregular migrants ($n = 235$), prevalence was 31.7% (44/139) in women and 34.4% (33/96) in men, with a difference of 2.7 percentage points (95% CI: −10.4% to 15.8%, $p = 0.914$). In the refugee population ($n = 16$), both genders presented identical prevalence rates of 37.5% (3/8 in each group; difference: 0.0%, 95% CI: −43.7% to 43.7%, $p = 1.000$), although the limited sample size substantially reduces statistical power to detect differences.

Notably, between 6.3% and 15.6% of participants, depending on their migratory status, did not recall or were unaware of whether they had been infected, with this proportion being higher among regular migrants (15.6%, 14/90) compared to irregular migrants (13.6%, 32/235) and refugees (6.3%, 1/16).

3.3 Vaccination by gender and migration status

Irrespective of migratory status, the vast majority of respondents had been offered a COVID-19 vaccination. A total of 323 respondents, corresponding to 94% of the sample, reported having received a COVID-19 vaccination. Furthermore, a large proportion of the respondents were in the group with irregular migration status with 69%, followed by persons with regular status with 27% and refugees, respectively.

Seventy-six percent of the respondents who were vaccinated had received two or more doses of the virus vaccine, including one dose of CanSino or two or more doses of other vaccines. Sixteen percent reported having received only partial doses of the vaccine, and 7% had not received full doses. Regardless of the population's migration status, most reported receiving full doses of the COVID-19 vaccine.

Analysis of COVID-19 vaccination offer revealed gender-specific disparities according to migratory status (Table 2). In the overall sample ($n = 341$), 93.8% (320/341) reported having received a vaccination offer, with an overall coverage of 97.7% (167/171) in women compared to 90.0% (153/170) in men.

Among the irregular migrant population ($n = 235$), a statistically significant gender difference was identified ($\chi^2 = 4.48$,

TABLE 1 Self-reported COVID-19 infection prevalence by gender and migratory status.

Migratory status	Gender	Infected *n* (%)	Not infected *n* (%)	Does not know/ recall *n* (%)	Total	Difference in proportions* % (95% CI)	*p*-value†
Regular	Female	4 (13.3)	20 (66.7)	6 (20.0)	30	30.0 (9.2–50.8)	0.016
	Male	26 (43.3)	26 (43.3)	8 (13.3)	60	–	–
	Subtotal	30 (33.3)	46 (51.1)	14 (15.6)	90	–	–
Irregular	Female	44 (31.7)	81 (58.3)	14 (10.1)	139	2.7 (−10.4 to 15.8)	0.914
	Male	33 (34.4)	45 (46.9)	18 (18.8)	96	–	–
	Subtotal	77 (32.8)	126 (53.6)	32 (13.6)	235	–	–
Refugee	Female	3 (37.5)	4 (50.0)	1 (12.5)	8	0.0 (−43.7 to 43.7)	1.000
	Male	3 (37.5)	5 (62.5)	0 (0.0)	8	–	–
	Subtotal	6 (37.5)	9 (56.3)	1 (6.3)	16	–	–
Overall total		113 (33.1)	181 (53.1)	47 (13.8)	341	–	–

*Difference calculated as proportion in males minus proportion in females (positive values indicate higher prevalence in males).
†Pearson's Chi-square test or Fisher's exact test as appropriate.
CI, confidence interval at 95%.
$n = 3$ participants who reported gender as "Other" were excluded from analysis (2 irregular, 1 refugee).

TABLE 2 COVID-19 vaccination offer by gender and migratory status.

Migratory status	Gender	*N*	Vaccine offered *n* (%)	Vaccine not offered *n* (%)	Difference in proportions* % (95% CI)	OR (95% CI)†	p-value‡
Regular	Female	30	30 (100.0)	0 (0.0)	3.3 (−3.1 to 9.7)	NC	0.548
	Male	60	58 (96.7)	2 (3.3)	–	–	–
	Subtotal	90	88 (97.8)	2 (2.2)	–	–	–
Irregular	Female	139	133 (95.7)	6 (4.3)	7.2 (0.6–13.8)	2.87 (1.04–7.91)	0.034
	Male	96	85 (88.5)	11 (11.5)	–	–	–
	Subtotal	235	218 (92.8)	17 (7.2)	–	–	–
Refugee	Female	8	8 (100.0)	0 (0.0)	25.0 (−7.0 to 57.0)	NC	0.467
	Male	8	6 (75.0)	2 (25.0)	–	–	–
	Subtotal	16	14 (87.5)	2 (12.5)	–	–	–
Overall total		341	320 (93.8)	21 (6.2)	–	–	–

*Difference calculated as proportion in females minus proportion in males (positive values indicate higher offer in females).
†Odds ratio calculated with males as reference category (OR > 1 indicates higher odds in females).
‡Pearson's Chi-square test or Fisher's exact test as appropriate.
NC, not calculable due to presence of cells with zero values preventing OR calculation. OR, odds ratio; CI, confidence interval at 95%.
$n = 3$ participants who reported gender as "Other" were excluded from analysis (2 irregular, 1 refugee).

$p = 0.034$). Women presented higher offer coverage at 95.7% (133/139) compared to 88.5% (85/96) in men, resulting in an absolute difference of 7.2% points (95% CI: 0.6% to 13.8%). Odds ratio analysis confirmed that irregular migrant women had 2.87 times higher odds of receiving a vaccination offer compared to men (OR = 2.87, 95% CI: 1.04–7.91), with this association being statistically significant.

No statistically significant differences were observed in regular migrant populations (100.0% in women vs. 96.7% in men, $p = 0.548$) or refugees (100.0% vs. 75.0%, $p = 0.467$). In the case of refugees, although a considerable numerical difference of 25.0 percentage points was observed, the limited sample size ($n = 16$) substantially reduces statistical power to detect significant differences, which may explain the absence of statistical significance despite the magnitude of the observed difference.

These findings suggest that gender inequities in access to COVID-19 vaccination offer are specific to the migratory context, being particularly evident in the irregular migrant population where men experience additional barriers to accessing immunization offers.

3.4 Timing and brand of first-time vaccinations by gender and migration status

Most participants (81%) received their first dose between July and September 2021, with 50% being female and 50% being male. Regarding the migratory status of those vaccinated between

July and December, 44% had regular status, 44.5% had irregular status, and 10% had refugee status. The Sinovac brand of vaccine predominated (47%), followed by Pfizer (19%), Astrazeneca (15%), and 9% of respondents received the single-dose vaccine, CanSino. There was an additional 7% that received other vaccine brands (Sinopharm, Sputnik, J&J, or Moderna), and 3% didn't know/didn't remember the brand. In total, 83% of respondents had received the first dose in Ecuador, followed by 6.5% in Colombia and 6.2% in Venezuela.

The majority of participants (61%) received their second dose between July and September 2021, of which 50% were female and 50% were male. This period was followed by October to December, during which a total of 28% of respondents had been vaccinated. The Sinovac brand of vaccine predominated (51%), followed by Pfizer (24%), Astrazeneca (17%), and only one person received the single dose of CanSino (0.5%). There was an additional 3.5% that received other vaccine brands (Sinopharm, Sputnik, or Moderna), and 4% didn't know/didn't remember the brand. Ninety percent of the population vaccinated with the second dose received it in Ecuador, followed by 4% vaccinated in Colombia, and 4% in Venezuela.

Most participants received their booster dose between January and June 2022, with 48% being female and 52% male. The Sinovac brand of vaccine predominated (27%), followed by Pfizer (29%), AstraZeneca (36%), and 4% of respondents received the single-dose CanSino. There was an additional 2% that received other vaccine brands (Sinopharm, Sputnik), and 2% didn't know/didn't remember the brand. Ninety-four percent of the population vaccinated with the second dose received it in Ecuador, followed by 4% in Peru, and in equal magnitude Chile and Venezuela (1%).

3.5 Experience of the vaccination process

The majority of respondents (71%) had not heard or observed any comments about the vaccination process for foreign nationals against COVID-19. Indeed, of the 344 respondents, only 26% had heard something and 3% were unsure.

Of the 88 respondents surveyed who reported having seen or heard any comments, 18 were of regular migration status, 65 were of irregular status, and 5 were of refugee status. Among the types of actions observed and reported, the predominant ones were that documentation, such as a visa or identity card, was requested to administer the doses (33%) and that it was possible to be vaccinated despite not having a visa or any other legal document (18%).

Of these data, it should be emphasized that one person with regular migratory status heard that respondents without documentation would be deported if they went for vaccination. In addition, 5 respondents, 4 were MIIS and one refugee, heard that the vaccinations were only for Ecuadorians.

Respondents were asked if they perceived differences in the treatment for vaccination in relation to foreign citizens. However, 91% of respondents did not perceive any differences, while 6% said they perceived a difference, and 3% did not know or could not remember. Among the 19 respondents who perceived differences, 5 were MIRS, 12 MIIS, and 2 were refugees.

Similarly, respondents were asked if they had witnessed any form of discrimination during the vaccination process, and 93% of the surveyed population reported not having done so. Meanwhile, 5% of the surveyed population stated that the acts of discrimination were directed against them personally, and 2% against the migrant population. The acts of discrimination reported against this group of respondents were mainly by health personnel (54%), security personnel (25%) and local respondents (13%).

4 Discussion

In Ecuador, although the majority of the participants were migrants in irregular situations (MIIS), nearly all respondents in our study had been offered a COVID-19 vaccine. This reflects regional patterns, where Latin America achieved relatively high levels of vaccination compared with other low- and middle-income regions, although marked gaps remained in terms of booster coverage and equitable inclusion of vulnerable groups (19, 20).

Our findings showed that only 61% of respondents received a second dose and even fewer obtained boosters are consistent with evidence of undervaccination described in systematic reviews of migrant populations. Crawshaw et al. (1) identified key determinants—including misinformation, administrative hurdles, and lack of culturally tailored communication—that mirror the barriers reported in Ecuador. This suggests that vaccine uptake is not merely a function of supply, but also depends on addressing confidence, convenience, and the social determinants of health.

The Ecuadorian case also highlights broader global inequities in vaccine distribution. While high-income countries reached nearly 80% one-dose coverage by late 2023, low-income countries lagged behind at only 33% (21). Within Latin America, comparative analyses show that countries with stronger supply chains and more inclusive eligibility criteria achieved faster uptake, while others struggled with fragmented policy responses (19).

In Ecuador, once the availability of the vaccine was resolved bymid-2021, most of the migrants (81%) received their first dose. However, it is also important to note that the second dose was received only by 61%, as well as the booster. Something that might be related to misinformation or lack of proper communication campaigns, as the sanitary authority insisted there was enough inventory for all people living in the country. This was not, unfortunately, the same everywhere, as of 29 November 2023, it was estimated that 79.9% of the population in HICs had been vaccinated for COVID-19 with at least one dose, while in LICs only 32.8% of the resident population had received at least one shot (19).

The International Organization for Migration (IOM) reported that, when the vaccine rollout started, only regular migrants were included in vaccination campaigns in most countries (21), something that is also reported in our study. However, more recent updates from the UNHCR report that 162 countries have included refugees in their national COVID-19 vaccine plans; however, information about the inclusion of irregular migrants in the different local vaccination programs is scanty (22).

It has also been reported that refugees and migrants (particularly MIIS) may face multiple barriers to vaccination against COVID-19, including limited vaccine supply; low confidence in the benefits and safety of the vaccine; social influence

and norms; lack of information on how to obtain vaccines; language barriers; complex registration processes and limited access to the web; and fear of arrest, detention, or deportation (23) but as mentioned previously, in Ecuador most of these issues also were reported. Some of those barriers were resolved quicker than others achieving a positive outcome. On the other hand, operational and administrative barriers (such as identification documents and residence permit) limited migrants in Ecuador access to vaccines as well reported by WHO (24).

Finally, stigma, discrimination, exclusion, and lack of access to health information and quality healthcare all represent additional barriers affecting access to this basic human right, not only in our sample, and other studies pertaining to migrants and refugees (24).

Migrants and refugees with irregular status in particular, continue to be among the most marginalized in vaccination programs. Although Ecuador adopted comparatively inclusive policies, our results confirm that barriers persisted, such as documentation requirements, discrimination by health and security staff, and misinformation. These obstacles echo findings from PAHO (6) and Crawshaw et al. (1), which emphasize the importance of targeted communication strategies, reduction of administrative obstacles, and collaboration with NGOs to ensure equitable vaccine access.

5 Conclusion

The analysis of the results of this research demonstrates several main issues concerning COVID-19 vaccine access and deployment in Ecuador, impacting the human rights of migrants and refugees in Ecuador, related especially to the initial lack of funding for vaccines, as well as the need for communication to counter xenophobia and misinformation.

The main conclusions are that there is a lack of accurate information gathering concerning vaccination records within Ecuador. Vaccine record keeping has improved since May 2021; however, there remain major gaps concerning the administration of vaccinations. These data gaps are related to insufficient training and oversight of staff at the vaccination centers concerning data classification as well as the procedures that ensure equal access to vaccines.

Discrimination by gatekeepers, such as security guards and healthcare workers was a barrier that made the implementation of universal vaccination programs difficult. Persons with disabilities and belonging to the LGBT+ population faced further discrimination, providing evidence that further research needs to be focused on how vaccine rollouts affect these vulnerable populations.

The lack of the possibility to publicly access stable and easy-to-access information about vaccination programs and misinformation makes it difficult for migrants and refugees to access vaccination points.

Initial low investment in the Ecuadorian health system and dependency on International Organizations for donations were tremendous barriers to facilitating access to vaccination, both for Ecuadorians and even more for those with regular as well as irregular status and refugees. The lack of support makes medium—to long-term planning difficult.

Access to vaccination centers and health brigades, which reached communities that were not accessing vaccination center sites, were the main facilitators in the vaccine roll-out.

Social pressure from non-governmental and multilateral organizations and improvements to the vaccine registration process for vaccines against COVID-19 have progressively facilitated migrants' access to the basic and constitutional right of everyone living in Ecuador to health.

Our study demonstrates outcomes broadly consistent with findings in Latin America and Europe, where vaccine accessibility improved but booster uptake lagged behind (1, 19). In line with regional evidence (20), our results highlight that equitable policies can reduce gaps in initial vaccine access, yet operational and social barriers persist. Compared to global analyses of vaccine inequity, which point to higher mortality in under-resourced regions (21, 22), Ecuador's relatively inclusive approach mitigated some of these risks, though gaps in booster coverage remain a shared challenge.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by Research Ethics Committee on Human Subjects (CEISH). The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided written informed consent to participate in this study.

Author contributions

CM: Writing – original draft, Conceptualization, Investigation, Writing – review & editing, Methodology, Resources, Formal analysis, Project administration, Supervision. TM: Writing – original draft, Formal analysis, Data curation, Writing – review & editing, Investigation. MM: Project administration, Writing – review & editing, Methodology, Conceptualization, Writing – original draft. ET: Supervision, Writing – review & editing, Project administration, Conceptualization. PB: Conceptualization, Methodology, Writing – review & editing, Project administration. NT: Conceptualization, Writing – review & editing. KB: Conceptualization, Methodology, Funding acquisition, Resources, Validation, Writing – review & editing, Supervision.

Funding

The author(s) declare that financial support was received for the research and/or publication of this article. Funding was received from the University of Geneva to complete the fieldwork and analysis.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author(s) declare that no Gen AI was used in the creation of this manuscript.

Any alternative text (alt text) provided alongside figures in this article has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

1. Crawshaw A, Farah Y, Deal A, Rustage K, Hayward SE, Carter J, et al. Defining the determinants of vaccine uptake and undervaccination in migrant populations in Europe to improve routine and COVID-19 vaccine uptake: a systematic review. *J Travel Med*. (2022) 29:taac102. doi: 10.1016/S1473-3099(22)00066-4

2. Grupo de Movilidad Humana-GIZ Ecuador. *Segundo dialogo sobre movilidad humana: acceso al sistema al plan de vacunación para población en movilidad humana en el Ecuador*. Quito: Grupo de Movilidad Humana, GIZ Ecuador (2022). Available online at: https://www.bivica.org/file/view/id/592 (Cited March 29, 2022).

3. Organización de las Naciones Unidas (ONU). *Los Efectos Del COVID-19: Una Oportunidad para Reafirmar La Centralidad de Los Derechos Humanos de Las Personas Migrantes en El Desarrollo Sostenible*. Santiago: CEPAL (2020). Available online at: https://repositorio.cepal.org/bitstream/handle/11362/46353/4/S2000618_es.pdf (Cited March 29, 2022).

4. Ministerio de Salud Pública del Ecuador. *Ecuador Recibe 700 mil Dosis Más de Sinovac: 100% de Docentes, Personas Con Enfermedades Catastróficas y Grupos Vulnerables Serán Vacunados en Fase 1*. Quito: MSP (2021). Available online at: https://www.salud.gob.ec/ecuador-recibe-700-mil-dosis-mas-de-sinovac-100-de-docentes-personas-con-enfermedades-catastroficas-y-grupos-vulnerables-seran-vacunados-en-fase-1/#: ~ :text=Este%20s%C3%A1bado%2C%20en%20el%20aeropuerto,19%20que%20llega%20al%20pa%C3%ADs (Cited March 29, 2022).

5. Organización Internacional para las Migraciones (OIM). *Monitoreo de Flujo de Población Venezolana en Ecuador*. Ecuador: OIM (2021).

6. Pan American Health Organization. *COVID-19 Vaccination in the Americas: progress and Challenges*. Washington, DC: PAHO (2023).

7. Rocha R, Atun R, Massuda A, Rache B, Spinola P, Nunes L. COVID-19 vaccine coverage in Latin America: comparative policy analysis. *Lancet Reg Health Am*. (2023) 20:100462.

8. Reuters COVID-19 Tracker. *Ecuador*. (2022). Available from: https://graphics.reuters.com/world-coronavirus-tracker-and-maps/countries-and-territories/ecuador/ (Cited March 29, 2022).

9. Eguiguren M, Martens C, Godoy D. Migración en Contexto de Pandemia: Las Respuestas Políticas en el Ecuador. *Cuadernos del Cendes* (2022) 39:29–59.

10. Martens C, et al. *The Current State of the Situation of Migrants and Refugees in Temporary Shelters and Hostels in Ecuador March–April 2021*. Care: Ecuador (2021). Available online at: https://www.care.org.ec/wp-content/uploads/2021/06/CARE-The-current-state-Mig-Ref-shelters-in-ECU-2021-ENG.pdf (Cited March 29, 2022).

11. Instituto Nacional de Estadística y Censos (INEC). *Entradas y salidas internacionales (ESI)*. Ecuador: INEC (2022).

12. Grupo de Trabajo para Refugiados y Migrantes (GTRM). *Ecuador Reporte de Situación*. Ecuador: R4V (2022).

13. *World Bank Country and Lending Groups*. Quito: World Bank Data Help Desk. Available online at: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519 (Cited January 28, 2024).

14. WHO. *Preparedness, Prevention, and Control of Coronavirus Disease (COVID-19) for Refugees and Migrants in non-Camp Settings: Interim Guidance*. Geneva: World Health Organization (2020).

15. Lewis NM, Friedrichs M, Wagstaff S, Sage K, LaCross N, Bui D, et al. Disparities in COVID-19 incidence, hospitalizations, and testing, by area-level deprivation: Utah, March 3–July 9, 2020. *MMWR Morb Mortal Wkly Rep*. (2020) 69:1369–73. doi: 10.15585/mmwr.mm6938a4

16. European Centre for Disease Prevention and Control. *Guidance on Infection Prevention and Control of Coronavirus Disease (COVID-19) in Migrant and Refugee Reception and Detention Centres in the EU/EEA and the United Kingdom*. Stockholm: ECDC (2020). Available online at: https://www.ecdc.europa.eu/en/publications-data/covid-19-guidance-prevention-control-migrant-refugee-centres [Cited January 28, 2024].

17. De Vito E, Parente P, de Waure C, Poscia A, Ricciardi W. A review of evidence on equitable delivery, access and utilization of immunization services for migrants and refugees in the WHO European Region. Copenhagen: WHO Regional Office for Europe (2017). Available online at: https://www.who.int/europe/publications/i/item/9789289052740 [Cited January 28, 2024].

18. United Nations Development Programme. *Global Dashboard for Vaccine Equity*. New York, NY: UNDP (2021). Available online at: https://data.undp.org/vaccine-equity/ (Cited January 28, 2023).

19. COVID-19 Excess Mortality Collaborators. Estimating excess mortality due to the COVID-19 pandemic: a systematic analysis of COVID-19-related mortality, 2020–2021. *Lancet*. (2022) 399:1513–36. doi: 10.1016/S0140-6736(21)02796-3

20. International Organization for Migration. *Migrant Inclusion in COVID-19 Vaccination Campaigns*. Geneva: IOM (2021). Available online at: https://www.iom.int/sites/default/files/our_work/DMM/Migration-Health/iom-vaccine-inclusion-mapping-17-may-2021-gelobal.pdf [Cited January 28, 2024].

21. United Nations High Commissioner for Refugees. *UNHCR COVID-19 Vaccine Access Report 2021*. Geneva: UNHCR (2021). Available online at: https://www.unhcr.org/623b18244/unhcr-covid-19-vaccine-access-report-2021 [Cited January 28, 2024].

22. World Health Organization. *Data for Action: Achieving High Uptake of COVID-19 Vaccines*. Geneva: WHO (2021). Available online at: https://www.who.int/publications/i/item/WHO-2019-nCoV-vaccination-demand-planning-2021.1 (Accessed January 28, 2024).

23. World Health Organization. Policy *Considerations for Implementing a Risk-Based Approach to International Travel in the Context of COVID-19*. Geneva: WHO (2021). Available online at: https://apps.who.int/iris/handle/10665/342235 (Cited January 28, 2024).

24. European Centre for Disease Prevention and Control. *Public Health Guidance on Screening and Vaccination for Infectious Diseases in Newly Arrived Migrants within the EU/EEA*. Stockholm: ECDC (2018). Available online at: https://www.ecdc.europa.eu/en/publications-data/public-health-guidance-screening-and-vaccination-infectious-diseases-newly (Cited Jan 28, 2024).

25. Grupo de Trabajo para Refugiados y Migrantes (GTRM). *GTRM Ecuador: Informe de Situación - Enero 2022*. Ecuador [Grafico]: R4V (2022).

26. Statista Research Department. *Número de Inmigrantes con Residencia Legal en Ecuador en 2019, por Nacionalidad*. Ecuador [Gráfico]: Statista (2021). Available online at: https://es.statista.com/estadisticas/1190350/poblacion-extranjera-de-ecuador-por-nacionalidad (Cited June 9, 2022).

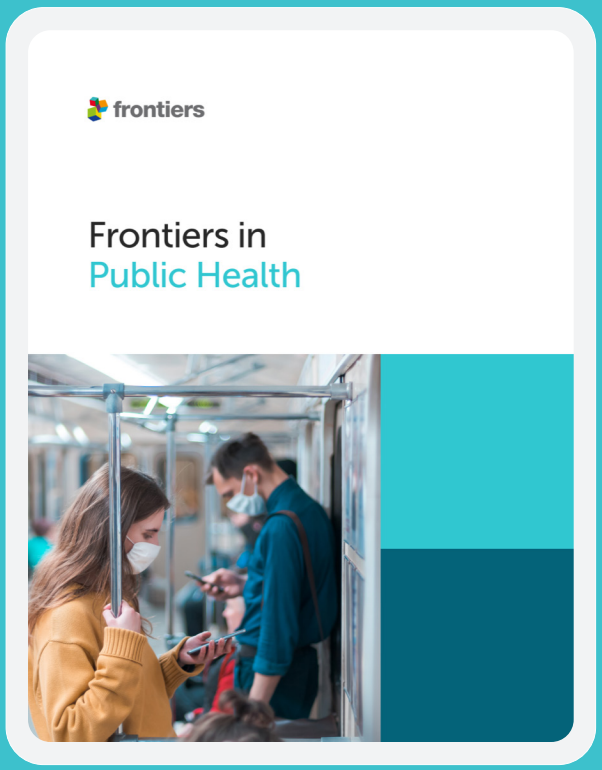
Frontiers in Public Health

Explores and addresses today's fast-moving healthcare challenges

One of the most cited journals in its field, which promotes discussion around inter-sectoral public health challenges spanning health promotion to climate change, transportation, environmental change and even species diversity.

Discover the latest Research Topics

See more →



Frontiers

Avenue du Tribunal-Fédéral 34
1005 Lausanne, Switzerland
frontiersin.org

Contact us

+41 (0)21 510 17 00
frontiersin.org/about/contact